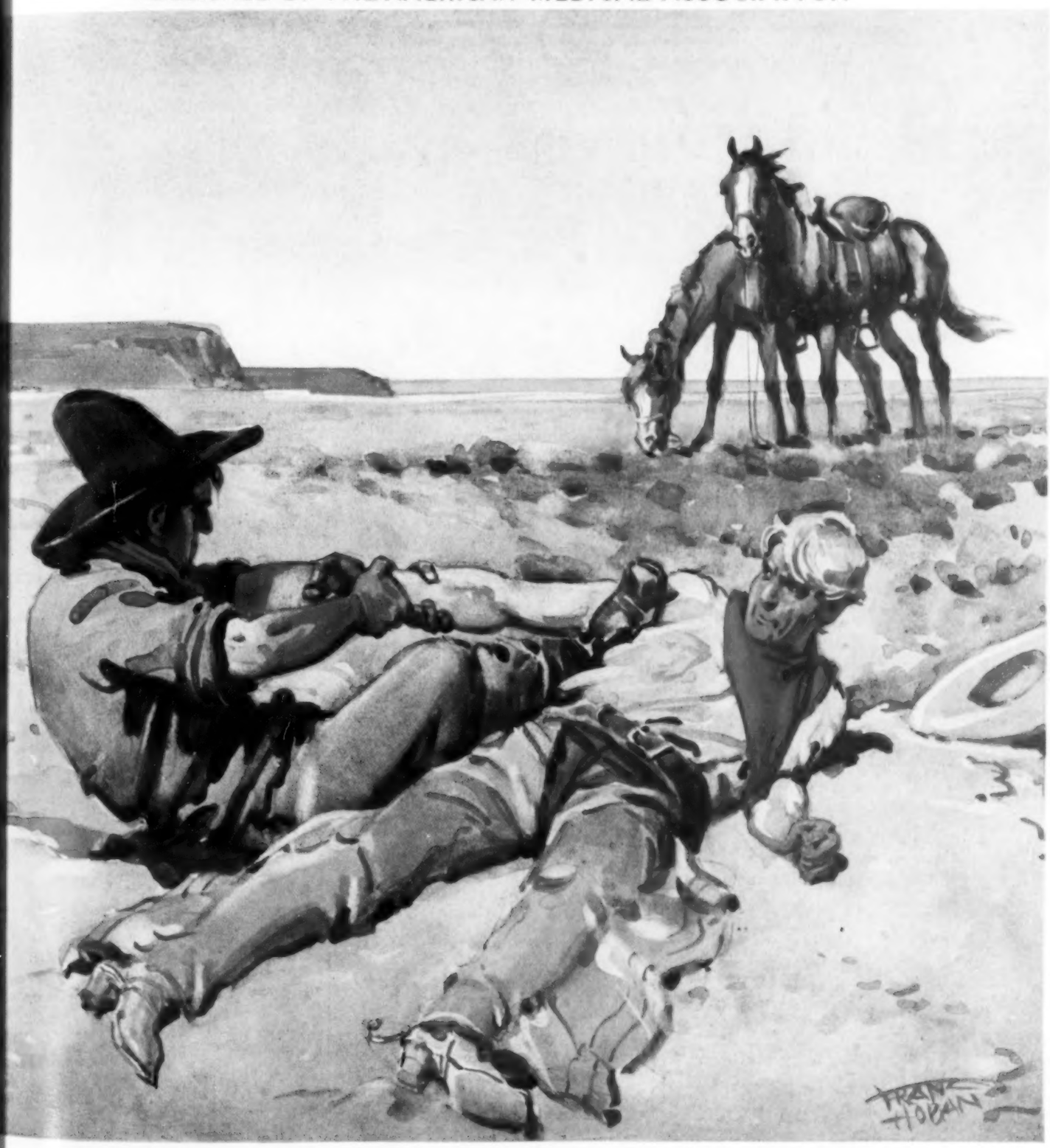
HYGEIA

The HEALTH MAGAZINE

HYGEIA

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

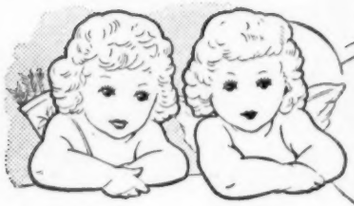


July 1935 — 25 Cents

RABIES

APPENDICITIS

MENTAL DISEASE



HEAVENLY MOMENTS

Artists BOTH..

There's as much true Art in the preparation of tempting dishes as there is in painting on canvas. And these high quality brands of tuna simplify the "technique" of the Art of Cookery surprisingly!

There are *so many* ways of serving . . . all different . . . all delicious! It is the most "adaptable" food you ever used! And, *good for you* . . . with its Vitamins "A" and "D," phosphorus, potassium, and iodine that effective preventive of nutritional goiter. Insist upon these finer quality tunas *every time!*

Free recipes

"86 New Proven Tuna Recipes," write to Van Camp Sea Food Co., Inc., Terminal Island, Calif., Dept. C (for Chicken of the Sea booklet), Dept. W (for White Star Tuna booklet).

for 22 years America's favorite, because only the delicate, tender, delicious light meat is packed.

ACCEPTED AMERICAN MEDICAL ASSN. Committee on Foods

A PURE FOOD, HONESTLY ADVERTISED

The Seal of Acceptance of the Committee on Foods of the American Medical Association is your best guarantee that the claims of quality for any product are correct and that the advertising for it is truthful. Look for this seal on every food you buy. White Star Tuna and Chicken of the Sea Brand Tuna have this acceptance.

HYGEIA, the Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Volume 13, Number 7. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill. under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923.

HYGEIA•

JULY 1935

THE HEALTH MAGAZINE

Published by the American Medical Association
Edited by Morris Fishbein, M.D.

Volume 13
Number 7

WE PRESENT•

JANE TODD CRAWFORD: A HEROIC PATIENT.....Page 582

A DOCTOR'S DILEMMA.....Page 583
in which Dr. Wingate M. Johnson presents a plea for the doctor on vacation. Dr. Johnson is well known to Hygeia readers through his many contributions, the most recent of which, "The Challenge of Medicine," appeared in the June issue.

CURIOUS FACTS ABOUT CONSTIPATION.....Page 585
an article in which normal function and abnormal conditions are discussed by Dr. Lee D. Cady, a previous contributor to Hygeia.

PASTEUR'S CONQUEST OF RABIES.....Page 588
written in commemoration of that eventful day, fifty years ago, when Pasteur made his first inoculation against rabies in a human patient. The author, Lois Stice, is news editor of the American Medical Association.

"TO EAT OR NOT TO EAT".....Page 592
a question discussed by Dr. Frederick L. Patry, neuropsychiatrist, state education department, University of the State of New York, whose article "Preventive Psychiatry" appeared in a previous issue of Hygeia.

RECREATION FOR CONVALESCENT CHILDREN.....Page 594
an article on helping the handicapped, in which Sophia Potgieter gives a varied recreational program for orthopedic patients. Her observations are based on several years of experience as superintendent of a home for convalescent crippled children.

THOMAS TYCOON'S TIRADE.....Page 596
another fable in slang by Dr. W. W. Bauer, Associate Editor of Hygeia.

THE PREVENTION OF MENTAL DISEASE.....Page 598
an article in which Dr. F. W. Dershimer, instructor in psychiatry, College of Physicians and Surgeons, Columbia University, presents a plea to the public to stop trying to hide mental disease until it becomes so severe that it can no longer be hidden.

THE HARD OF HEARING.....Page 601
an article on the structure, functions and diseases of the ear, written by Dr. I. A. Drues.

TO AN AURIST.....Page 603
a poem by Violet Alleyn Storey.

A HOUSEWIFE LOOKS AT THE COMMITTEE ON FOODS...Page 604
and discusses the decisions of this American Medical Association group in regard to salad dressings. Doris W. McCray, who writes this series of articles, is a food consultant.

THAT PLAGUY APPENDIX.....Page 609
a study in which Dr. Harold B. Wood discusses the history and treatment of appendicitis. Dr. Wood is the author of previous Hygeia articles, including "How to Control Diseases in School"; "Why Fumigate?" and "How People Get or Avoid Typhoid."

THE CASE OF THE GLOOMY BABIES.....Page 612
another adventure in Dr. Robert A. Kilduffe's series, "The Doctor's Scotland Yard," in which Dr. Robert Trebor, clinical pathologist, unravels a mystery and analyzes the clues that led to the finding of a strange criminal.

"SALTS" AND "CRYSTALS" QUACKERY.....Page 617
an exposé of some "patent medicines" in which Dr. Arthur J. Cramp brings to the attention of Hygeia readers certain information gathered by the American Medical Association's Bureau of Investigation, of which he is director. Dr. Cramp's article entitled "Some Obesity 'Cures' and 'Treatments'" appeared in the January issue.

IF YOU'RE GOING SWIMMING.....Page 620
an article in which Dr. George A. Skinner tells how to remain healthy and happy while indulging in this popular sport. Dr. Skinner is a colonel in the Medical Corps, U. S. Army.

THE NERVOUS CHILD.....Page 622
and the behavior problems arising as a result of nervousness and manifesting themselves in the spoiled, the obstinate, the incorrigible and the maladjusted child, studied by Dr. Francis J. Scully.

"TO MARKET, TO MARKET".....Page 625
in which Harriet Morgan outlines the art and science of spending wisely and well, and tells how to market in order to secure the best value for the food dollar when the budget is limited.

CUPBOARDS IN LABRADOR.....Page 628
a glimpse into the customs and lives of the liveyeres, seen through the eyes of Edith Boden, a member of the staff of Sir Wilfred Grenfell.

PYORRHEA: A SHORT STORY OF THE LONG TOOTH.....Page 632
the seventh chapter in the series, "These Teeth of Mine," by David W. McLean, D.D.S.

EYE DISEASES IN ADVANCED AGE.....Page 636
part 2 of the eleventh chapter in Dr. Hyman Cohen's series, "The Eye Book."

WHY THE BABY HAS ECZEMA. III.....Page 640
in which Dr. Dennis Kelly and Myrtle Meyer Eldred discuss the specific internal causes of infantile eczema, with special reference to foods and their effects.

LORD LISTER.....Page 643
a brief illustrated biography of a great physician who founded the science of modern surgery. This is the fourth article in a series in which Adolph Beilin depicts the lives of pioneer scientists who have helped to make modern medicine possible.

THE REMARKABLE AIRPLANE.....Page 646
a story for young readers by Sara Sloane McCarty.

THE VITAMIN ELVES.....Page 649
a poem by Edna Becker.

COVER DESIGN
by Frank J. Hoban.

HEALTHGRAMS.....Page 586
FORECAST FOR AUGUST.....Page 616
HEALTH PURSUITS IN PICTURES.....Pages 644; 650
SCHOOL AND HEALTH DEPARTMENT.....Page 651
NEW BOOKS ON HEALTH.....Page 656
QUESTIONS AND ANSWERS.....Page 658

Published monthly by the American Medical Association, 535 North Dearborn Street, Chicago. Subscription price $2.50 a year. Single copies 25 cents. Foreign subscriptions $3.25 a year.

Copyright, 1935, by the American Medical Association. All rights reserved.

JULY
1935

EDITORIAL

Jane Todd Crawford

A HEROIC PATIENT

KENTUCKY just after the beginning of the nineteenth century was largely a wilderness. In those surroundings occurred in 1809 an incident which was epoch marking in the history of medicine. It involved a surgeon of courage, of understanding and of scientific training and a woman, heroic and spiritual. Before the coming of anesthesia and asepsis any surgical operation was a matter of torture and tribulation. The removal of the fear of pain and the relative surety of freedom from infection have made it possible for modern surgery to penetrate any portion of the body with impunity. In those days the opening of the abdomen or of the skull was fatal in the vast majority of cases.

On Decoration Day in 1935 the medical profession of the state of Kentucky dedicated in the city of Danville a monument to the memory of Jane Todd Crawford, the woman on whom Dr. Ephraim McDowell first performed the operation of ovariotomy, a procedure involving the opening of the abdomen and the removal of one of the sex glands. Some time ago the medical profession of Kentucky dedicated a monument to Dr. Ephraim McDowell, commemorating the contribution to surgery made by his operation on Jane Todd Crawford. This group has now erected a similar memorial to her.

JANE TODD CRAWFORD lived in Motley's Glen, sixty miles from Danville, where McDowell had his home and his office. She began to suffer with a growth in her side which gradually became larger. McDowell was called to see her and realized as had others that unless this growth were removed the patient would surely die. Plans were made to bring her to Danville. Dec. 13, 1809, she arrived after traveling sixty miles on horseback. She was a small woman. So difficult was the journey and so large the growth in her abdomen that the skin had become bruised against the horn of the saddle.

The room in the home of Ephraim McDowell in which the operation was done was not the glistening white tile operating room familiar to all of us today. It was just a plain bleak room. In the center stood a hard wood table covered with a folded blanket. There were no fine white sheets or surgical antiseptic solutions or white-clad nurses standing before tables full of flashing instruments. Mrs. Crawford entered the room and, unassisted, climbed onto the table. As the operation proceeded she recited numerous psalms. Five days later she was up making her own bed. Twenty-five days later she rode home on horseback, as she had come to Danville. In 1813 Dr. McDowell did a similar operation, and in 1816 he performed a third one. Finally, in 1817, he published his results.

EPHRAIM McDOWELL was a country doctor! It is gratifying to have in the state of Kentucky a monument dedicated to his memory. It is well also to have standing beside it what is probably the first monument dedicated in this country to a patient and probably the second that has been set up anywhere in the world. In Paris stands a monument to Jean Baptiste Jupille, a shepherd boy who at the risk of his own life struggled with a mad dog to prevent injury to six children and who then came to Pasteur fifty years ago to receive the Pasteur treatment, which prevented him from developing rabies. Perhaps it would be well if nations while erecting their monuments to the soldiers of war would think more of the soldiers of peace—those men and women who heroically cooperate with the masters of medical science to free human beings more fully from the fears of pain and of death.

A DOCTOR'S DILEMMA

In Which WINGATE M. JOHNSON Presents A Plea for the Doctor on Vacation

"MAG WANTS YOU TO SEE HER HEAD AND TELL HER WHAT MAKES IT ACHE. SHE HAS HAD DR. SMITH SEE IT, BUT EVER SINCE SHE HEARD YOU WERE COMING DOWN HERE, SHE HAS BEEN SAYING THAT SHE WANTS YOU TO SEE IT."

ON THE second day of a vacation spent economically with relatives, after a luxurious morning in bed and a delightful lunch, the proverbial fly appeared in the otherwise perfect ointment. "Mag" (the cook) "wants you to see her head and tell her what makes it ache. She and her husband had a fight two weeks ago, and ever since then it has been hurting her. She has had Dr. Smith see it, but ever since she heard you were coming down here, she has been saying she wants you to see it."

As I had left my professional poise behind with my office equipment, my countenance registered a very evident reluctance to see Mag's head; but when my wife gave me a look that meant business and added sweetly, "It won't take you a minute, and it will please her so. I know how you hate to do it, but don't be so selfish," I meekly submitted and heard Mag's voluble account of her great misery. My defense for a lack of interest in Mag did not occur until too late; but for the benefit of HYGEIA readers who may be tempted to ask doctors to prescribe extemporaneously, while on vacation, I am now making out my brief.

First, it did not occur to my relatives that in seeing Mag and offering an opinion I was guilty of unethical conduct. She had already con-

sulted the local doctor, who was quite competent to treat her. If my cursory questioning and superficial examination did not agree with his observations, either he or I would be discredited in her eyes.

Secondly, it was grossly unfair to expect me to risk in a three-minute interview a reputation that I have been trying for twenty-five years to build up. A headache may mean any one of a dozen ailments. To reach anything like an intelligent idea of its cause would require considerable time, a careful history followed by a complete physical examination, a number of laboratory tests and possibly an eye refraction and an x-ray examination of the skull.

Finally, any unscrupulous lawyer who heard of Mag's fight with her husband might persuade her to sue him, using the headache which followed her injury as supporting evidence. Our legal system is so constructed that Mag could bring a pauper suit which would cost her nothing. Perhaps months or years hence the court could force me to come back for 200 miles to testify as a witness, always with the pleasant possibility that the trial might be postponed several times, necessitating my making a separate trip for each false start the lawyers made.

So I trust I was not such a boor as I seemed. There were deeper reasons beneath my hesitation than were apparent on the surface.

HEALTHGRAMS ✣ from Articles in This Issue

¶HYGEIA readers who may be tempted to ask a doctor to prescribe extemporaneously, while on vacation, should realize that he may be staking a twenty-five year reputation on an inopportune three-minute interview. *See page 583*

¶To be able to enjoy this most delightful sport, swimming, without paying a tremendous penalty, let the body be in the water, but keep the head in the air. *See page 620*

¶Cathartics have a damaging effect in a case of acute appendicitis. *See page 609*

¶The steady progress being made today in laboratories all over the world in the perfection of serums, vaccines and antitoxins against diseases produced by unseen organisms owes its inception to the clear mind, the inexhaustible patience and the great humane spirit of Louis Pasteur. *See page 588*

¶The necessarily frugal life on the Labrador coast prompts the expression, "Us in Labrador has to cook what us finds to eat and be thankful us has it." *See page 628*

¶In treating the child's nervous condition, the routine of the daily life should include a definite time for meals, play and rest. *See page 622*

¶Trouble is at the door, with one foot over the sill, when the gums shrink back and the teeth begin to look unnaturally long. *See page 632*

¶As a famous ear specialist has said, "The patient should not put anything smaller than the elbow in the ear." *See page 601*

¶If a mother can be made to understand that stuffing a baby in a frenzy to see him gain weight may be directly responsible for his eczema, the cure should be simple. *See page 640*

¶Money spent for milk will bring greater return in nutritive value than money spent for any other food. *See page 625*

¶Whatever can be done about the eye diseases of advanced age should be done beforehand, when one still has youth and the good sense to keep it. *See page 636*

¶If nature intended her children to be constipated, it seems rather certain that she would have them born with a bottle of pills in one hand and some device for taking enemas in the other; but she does not. *See page 585*

¶Few laxatives, in fact, few medicines of any kind are more generally used and abused by the public than are the saline cathartics. *See page 617*

¶It is probably no exaggeration to say that the principles of antiseptic knowledge that Lister evolved have saved more lives than have been destroyed in all the wars in the world's history. *See page 643*

¶From any sensible point of view, no reason can be found for looking on mental disease as a disgrace and attempting to hide it. *See page 598*

¶It is poor psychology to place too much food on the table since the desire for it is apt to be inversely proportionate to its availability. *See page 592*

¶Factory care in the selection of good ingredients, proper refrigeration and handling, cleanliness and tight packaging of mayonnaise are of no avail if the product is not properly cared for in the home. *See page 604*

¶When planning the convalescent child's recreation program, consider his age, general condition and physical handicap. *See page 594*

Curious Facts About Constipation

By

LEE D. CADY

MOST CONSTIPATED PERSONS PREFER TO THINK THEIR COLONS ARE LAZY, WHEREAS IN REALITY IT IS THEY, THE PERSONS THEMSELVES, WHO ARE LAZY; OR THEY MAY BE MISGUIDED, FOR THE VAST MAJORITY OF THOSE PERSONS WHO SUFFER FROM THIS DISORDER DO NOT HAVE LAZY COLONS.

CONSTIPATION seems to be one of the curses of civilization. Fortunately it does not affect all civilized persons. Those most affected are individuals who lead a sedentary life, those who have unfortunate dietary habits, those who have actual organic trouble in the intestines and those who tamper with the natural functioning of the intestines by unwise use of laxatives, purgatives and cathartics. The persons last mentioned may also have some of the other causes for constipation along with their tinkering.

If we are to consider constipation and normal bowel function, we should have some idea about what is normal. That which is normal for one individual may not be normal for another. There is, for example, the stockily built person with a relatively long trunk and broad chest and abdomen. Persons of this type tend to have intestines of comparatively small caliber which do not coil around much within the abdomen. Furthermore, these persons are hearty eaters. They have a tendency toward physical activity and possibly toward aggressive temperament. The normal rate of function for these individuals is from two to three movements daily. With only one movement daily, they are as constipated as others who have a movement every other day.

Now, consider the other extreme of physical build. These individuals are formed on the long and thin plan. They have a tendency to stoop as they walk about, and they are not inclined toward energetic physical activity. Their stomachs sag inside their abdomens, and their intestines curve about more than those of the stocky individuals. Comparatively, they have more intestine with less work to do for they have neither the hearty appetite nor the physical habits that demand so much food.

THE person of average build may be described as one who is neither stocky nor long and thin. He is simply average in his skeletal and muscular build. His stomach and intestines have a formation which is about an average between the two extremes already mentioned. He gets along comfortably with about one regular movement daily.

When are these variously built individuals constipated? The stocky person is quite probably constipated when he has only one movement daily; the average person when he misses a regular daily movement, and the long thin

DO NOT BEGIN TO TOSS PILLS INTO YOUR REBELLIOUS COLON AND FORCE IT TO WORK WHEN IT IS ALREADY OUT OF RHYTHM.

individual when he attends to this function on alternate days or even less frequently. Constipation, then, is not the same in one person as it is in another. Not all persons fit into the same pattern. Nature did not intend it so.

The large intestine, which consists of the cecum, the colon and the rectum, has two important functions. It absorbs useful remnants of food and water and eliminates the indigestible portions of food and wastes coming from the other digestive organs higher up. If it had the sole function of elimination of waste, the rather popular belief that the large intestine is something on the order of a sewer would be justified. But it is not just a sewer to carry off wastes from the body; it is a functioning organ of some delicacy of structure.

The colon is lined by a delicate membrane which even plain tap water will irritate. It is true that most plain or medicated enemas do not cause pain, but they do irritate. If the colon is distended and the membrane irritated, the colon tries to expel its contents. Tiny little nerve cells lie in the wall of the colon and serve in somewhat the capacity of the colon's brain. These little nerve centers know enough to resent what is bad or disagreeable to the membrane of the colon, even though the person's real brain in his head does not know that.

The large intestine is about 5 feet long. About the upper two thirds of this length is expected to have semiliquid contents. It occupies itself with the absorption of food and water. The lower third absorbs water and is mainly concerned with the elimination of undesired food remnants.

The entire organ does not function as a garbage wagon and carry off what is left from each meal separately. If an indigestible colored powder is taken with any particular meal, physicians expect it to pass through the entire digestive tract in a fairly definite time. Of course that time should vary according to the general physical build of the individual. The stocky individual may normally eliminate some of the colored powder in about twelve hours, and all of it in from thirty-eight to forty hours. It is clear then that the colon is not really designed by nature to be anxious to expel everything as soon as the small intestine places something in it, for it has a function to perform before it eliminates.

Also, this explains why one is likely to have difficulty the day or two after taking cathartics or emptying the colon by means of enemas. An empty colon is not a normal colon, and it is not serving its normal purpose. To try to keep the colon empty is unphysiologic and leads to disorders. If the function of the colon, or any other organ, is disturbed for a sufficient length of time, that organ will refuse to act normally when it is first given a chance to do so. Incidentally, these statements are not to be construed to mean that there is never any time when colonic function is to be assisted. On the contrary, the normal colon should be regulated rather than be the helpless victim of misguided tinkering.

Most constipated persons prefer to think their colons are lazy, whereas in reality it is they, the persons themselves, who are lazy; or they may be misguided, for the vast majority of those

who suffer from this disorder do not have lazy colons.

Let us consider a typical case. Mrs. X. had been constipated for thirty years or so. In her earlier days she had been a hard working woman. Then she arrived at a position in life in which she did less physical work and had more time and opportunity to pamper her appetite. She ate well, even too well, but she was accustomed to attend to colonic function only when it reminded her. In this regard she became too indifferent to keep regular habits. She became constipated and took laxatives. She took them oftener, until they were necessary every day. Then the colon played its usual ironic joke for its daily insult. It filled up with gas and caused indigestion and discomfort. Mrs. X. found that enemas would help but that they must be repeated frequently. She came to live almost for her colon alone.

One day this much supervised and rather empty colon was surprised by receiving the remnants of a large meal of poorly chewed food. It dried the remnants out too quickly, and an obstruction resulted. Mrs. X. was in an extremely serious condition before her crisis was past. The doctor found later that her tinkering with various medicines and enemas had actually caused the colonic wall to change from the normal pink color to a dull leaden color, a common thing in cathartic habitués. But Mrs. X. had learned her lesson, and by proper common sense and simple methods, she reeducated her colon to normal function in less than two months.

No case of function constipation was ever cured by the persistent use of laxatives and cathartics. People do not realize how contrary to the plans of nature such measures are. Moreover, it does them no good to become anxious and panicky about their predicament. This state of mind tends to aggravate the already disordered colon. It may be surprising but it is true that depressing and unpleasant emotions may have a definite part in the colonic disturbances of some individuals.

Mrs. Y., for example, was one of those persons formed on the long and thin principle. She was frankly jealous of her husband. Somebody had been sending "poison-pen" letters and making "forked-tongue" telephone calls to her about her husband's social propensities. It was noticed that when her jealousy was allayed, her constipation was gone; also, when her jealousy was again on her, she was once more badly constipated. No amount of scrupulous medical care could make her colon function properly in the presence of her jealousy.

Again, there was the young wife who was always constipated at home but not while she was away. Circumstances at last made it necessary for removal elsewhere. Her colon functioned adequately when she was away from the influence of her mother-in-law.

The matter of constipation is not the same for all, and it is not in accordance with nature's plan for all of us to be the same. Colons are not sewers which have the sole function of elimination; they are digestive organs as well. The colon will usually function normally if the other habits of life, such as diet, exercise, work and recreation, are properly balanced. In most cases in which some temporary disturbance occurs, some of the ordinary rules of personal hygiene have been disobeyed. But that does not call for drastic measures to whip the otherwise normal colon into normal function.

But suppose you have done your best and you have been sensible about your constipation, what then? If you have not been lazy in some way you recognize, do not begin to toss pills into your rebellious colon and force it to work when it is already out of rhythm. Do not become a habitué of this or that laxative or a slave to colonic lavage. There may be some perfectly good organic reason why you are unsuccessful. Perhaps it is only a functional disturbance, not an organic disturbance. There is a distinction as well as a difference between the two.

At any rate, if nature intended her children to be constipated, it seems rather certain that she would have them born with a bottle of pills in one hand and some device for taking enemas in the other; but she does not.

IF NATURE INTENDED HER CHILDREN TO BE CONSTIPATED, SHE PROBABLY WOULD HAVE THEM BORN WITH A BOTTLE OF PILLS IN ONE HAND AND AN ENEMA DEVICE IN THE OTHER.

PASTEUR'S CONQUEST OF RABIES

Fifty Years Ago

By LOIS STICE

SPASMS, restlessness, shudders at the least breath of air, parching thirst with complete inability to swallow, convulsive movements, fits of rage, rapid agonizing death.

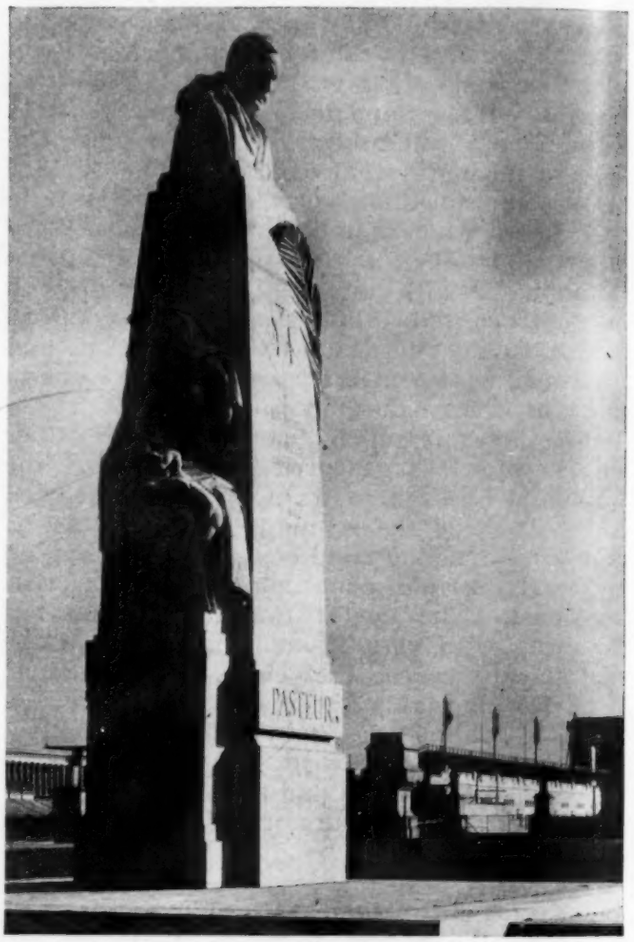
This is a picture of rabies, a disease that turns the animal often called man's best friend into one of his most dangerous enemies, a disease that is invariably fatal once it develops.

While Louis Pasteur, the celebrated French chemist, was laboriously piling up the knowledge of infectious diseases that was to revolutionize the practice of medicine, he was haunted by the mystery and the horror of rabies. So crowded was his busy life, so numerous were the problems that presented themselves for solution that he was unable to begin work on the cause and cure of the disease until December 1880, when he was 58 years old. In July 1885, just fifty years ago, he gave with fear and trembling the first "Pasteur treatment" ever administered to a human being.

Pasteur's work with rabies, then and now sometimes inaccurately called hydrophobia, began when two mad dogs were sent to the laboratory by an army veterinarian, one of many investigators who had been trying for years to break through the cloud that obscured the cause of the disease. This veterinarian had invented a method of filing down the teeth of dogs so that if a mad dog did bite, the damage to the victim would be less; but he had arrived exactly nowhere in his search for a cause.

The early workers were reasonably certain that the deadly agent that brought inevitable horrible death to those bitten by rabid dogs, or worse still, mad wolves, was contained in the animals' saliva.

Pasteur collected saliva from the two dogs and from a little girl who had died of rabies, and with it he inoculated rabbits. The animals died in about thirty-six hours—a strange thing, thought Pasteur, since rabies ordinarily takes days, weeks or even months to develop. The keen and cautious mind of the Frenchman reasoned that some other organism must have killed the rabbits. He proved his contention by inoculating more rabbits with the saliva of children who had died of other diseases and even with that of healthy persons; these rabbits also died. Something other than rabies virus was in the saliva. A few years later this germ was determined to be the now well known pneumococcus.



ERECTED TO "LOUIS PASTEUR, SERVANT OF HUMANITY," THIS STATUE, WHICH STANDS NEAR THE FIELD MUSEUM IN CHICAGO, IS ONE OF MANY TRIBUTES PAID TO A GREAT HUMANE SPIRIT.

To Pasteur, failure meant only that he had not found the right procedure.

"We must try other experiments," he said.

As he observed the strange behavior of human and animal victims of rabies, Pasteur became convinced that the virus did its deadly work in the nervous system. This he set out to prove. From the brain of a dog that had died of rabies he withdrew some of the brain substance, which he inoculated under the skin of other animals, taking care that every piece of apparatus he used was sterilized by being passed through a flame. When most of these animals contracted rabies, Pasteur felt sure that the brain contained the virus.

IT THEN occurred to the indefatigable experimenter to put the virus directly on the surface of the brain. He would then know how long it took for rabies to develop after it reached the brain. It was his idea that the variation in the length of the incubation period, that is,

the length of time between a bite and the appearance of rabies, was due to the fact that the virus traveled along nerve paths from the site of the wound to the brain. Therefore the incubation time was long or short, according to the distance of the bite from the brain.

This daring experiment was carried out successfully. The first dog on which he tried it was afflicted with rabies in fourteen days. Then began a long series of experiments on rabbits. As the microbe had not been isolated, Pasteur could not cultivate it on an artificial medium. So this resourceful scientist decided to use the natural habitat of the disease, brain tissue.

After a hundred or so uninterrupted transfers had been effected from one rabbit to another, the incubation time became shorter and shorter until it was reduced to seven days. The virulence had increased, as bacteriologists now know it does in other diseases. When Pasteur could shorten the incubation period no more, he concluded that the degree of virulence was fixed.

MANY years before, Pasteur had worked out a method of making vaccine against chicken cholera. It consisted of the now familiar procedure of weakening virulent germs to the point at which they do not produce a disease but set up, within the body, substances that protect it against the active germs.

Pasteur's next move was to try to weaken the organism that caused rabies. His great hope was that dogs and human beings might some day be protected against this terrifying affliction. He took a fragment of the spinal cord from a rabbit that had just died of rabies. With the chemist's minute and ingenious attention to detail, Pasteur closed the tube with cotton to admit air and yet keep out the dust of the atmosphere. In the bottom of the tube he placed a bit of caustic potash to keep the air dry. The room was kept at 23 C.

After fourteen days the infected material was thoroughly dry and its virulence was gone. Pasteur injected some of it into the brains of several dogs. Nothing happened. The next day he gave them material that had been drying for thirteen days, and so on until finally he used fresh tissue of full virulence.

Then the critical test was made. Mad dogs were allowed to bite several of the treated animals. Deadly virus was injected into the brains of others. All remained perfectly well.

This was in May 1884. Fearful of announcing his results too soon, Pasteur asked the government to appoint a commission to verify them. Six eminent scientists went to work June 1 and spent two months inoculating, testing, watching. They reported in August that the results were "magnificent."

It was now possible to protect dogs against rabies, but this was only one step toward control of the disease. What was most ardently desired was a way to prevent it from developing in human beings who had been bitten. Pasteur felt that it would take him at least two years more to reach the point of daring to try his method on men. He began experimenting with animals, inoculating them just after they had been bitten.

All through the winter of 1884-1885 he continued his work, submitting his results to the rabies commission and anticipating the day when he could try inoculation on man.

IT CAME sooner than he expected. On Monday, July 6, 1885, a woman entered the laboratory with her 9 year old son, the now famous little Joseph Meister, who had been bitten fourteen times by a furious mad dog. They had come from their home in Alsace to consult the great Pasteur, at the suggestion of a physician who knew of his work.

Pasteur's mind was in a turmoil. Could he risk it? He consulted two physician friends. Both examined little Joseph, and it was decided that in the face of the almost certain death that awaited the child, nothing would be lost by trying the method that had been so successful with dogs.

They gave Joseph his first dose of the killed virus that very night. Each day afterward he received another injection. As more and more virulent material was used, Pasteur became more and more nervous, though the boy was well and happy, living in a room especially prepared for him near the laboratories.

At last on July 16, Pasteur and his assistants inoculated Joseph with some material only one day old, the final test that would prove the protective value of the treatment. Pasteur scarcely slept that night; the boy slept peacefully.

Days passed, and the child remained well. Pasteur's fears abated until late in August he could write to a friend with full confidence, "I now possess a very perfect method of prophylaxis against that terrible disease, a method equally adapted to human beings and to dogs."

THE PASTEUR INSTITUTE IN PARIS WAS OPENED NOV. 14, 1888.

In his formal report to the French Academy of Sciences in October he said of Joseph, "Now today, three months and three weeks after the date of the accident, his health leaves nothing to be desired."

The late Dr. W. W. Keen, famous Philadelphia surgeon, added an interesting bit to the history of Meister. In 1922 during the observance of the centenary of Pasteur's birth, he told of having shaken hands in 1920 with Pasteur's first rabies patient. Meister was then serving as concierge at the Pasteur Institute in Paris.

EARLY in October 1885, Pasteur received a letter from the mayor of a small town, a man whom he had met during the summer, telling him of a shepherd boy who had been desperately wounded by a rabid dog.

The story has often been told. The dog attacked six little boys as they tended their sheep in a meadow. While the smaller ones ran to safety, the eldest of them, 14 year old Jean Baptiste Jupille, beat back the furious animal with his whip. After a frightful struggle, during which he was bitten on both hands, young Jupille got hold of the dog's neck and fastened its jaws together with the whip. Then with his wooden shoe he hammered the head until it was quiet, and to make assurance absolutely certain, dragged the carcass to a stream and held the head under water for several minutes.

The courageous youngster then went to the village to have his wounds dressed while veterinarians examined the dog and declared it had rabies.

The mayor wrote to ask Pasteur to try to save the lad. Pasteur acceded immediately to his request, and Jean Baptiste came through the treatment as uneventfully as Joseph Meister had. A statue depicting the boy's struggle with the raging dog now stands in the yard of the Pasteur Institute in Paris, commemorating his heroism and his escape from rabies.

News of Pasteur's victory over one of the most dreaded of diseases spread quickly through the world. Unfortunates who had been bitten came in great numbers and from long distances.

Among those who came were nineteen Russians from the province of Smolensk, who had been viciously attacked by a mad wolf two weeks before. So serious were the wounds that three of the men died during the treatment, but sixteen were saved. When the survivors reached home alive and well, they were greeted with almost religious emotion. Pasteur's son-in-law, René Vallery-Radot, describes the scene in his "Life of Pasteur." As a mark of the country's profound gratitude the czar sent to Pasteur a diamond cross of the Order of St. Anne of Russia.

About the same time, a big black dog ran amuck one day in Newark, N. J., and bit six children before he was killed. Newspapers on this side of the Atlantic had been printing dispatches on Pasteur's work, and physicians were watching it closely.

Pacific & Atlantic

FIFTY YEARS AGO (JULY 6, 1885), JOSEPH MEISTER, THEN A 9 YEAR OLD BOY, BECAME PASTEUR'S FIRST RABIES PATIENT. HE IS SHOWN IN THE PICTURE IN FRONT OF THE PASTEUR INSTITUTE IN PARIS WHERE HE ACTED AS CONCIERGE.

A Newark physician, Dr. William O'Gorman, therefore expressed the opinion that the children who had been bitten should be sent to Pasteur for treatment. He cabled Pasteur, who advised him to send them at once.

Immediately enthusiasm ran high both in Newark and in New York. Groups of workmen appeared in Dr. O'Gorman's office with voluntary offerings taken up in factories. Merchants fitted the children with winter clothes, and the French steamship line made special rates for their passage. The New York *Herald* opened its columns for subscriptions. Andrew Carnegie offered to pay all the expenses, but as almost enough money had been collected, this offer was declined.

THE parents of two children who had not been severely bitten refused to allow them to go, but four boys sailed, Dec. 9, 1885, accompanied by Dr. Frank S. Billings, professor of chemistry and bacteriology at the Polyclinic Medical College of New York and editor of the *Journal of Comparative Medicine*. Besides Dr. Billings, the mother of the youngest boy, 5 year old Eddie Ryan, went along. The other boys were William Lane, 13 years old, Patrick Joseph Reynolds, 7, and Austin Fitzgerald, 10.

Back in New York Jan. 14, 1886, well and full of excitement over their visit to Paris, the boys

reported that Pasteur had taken much interest in them, that the inoculation had hurt a good deal but had not frightened them. Vallery-Radot says that Eddie Ryan, surprised that inoculation amounted only to a pin prick, exclaimed, "Is this all we have come such a long journey for?"

The boys were asked endless questions about Pasteur and their experiences. Apparently the commercial note was not lacking, either, for the New York *Times*, which followed the story from day to day with great interest, reported that the manager of a "dime museum" offered the boys $25 a week each to go on exhibition in his show before the people of Newark saw them on the street. It was not recorded whether the offer was accepted.

A postscript was added to this story in 1928 when William Lane appeared as a guest at the ceremony dedicating a statue of Pasteur on the grounds of the Field Museum in Chicago.

As the whole world watched the startling events in France, the English government appointed a commission to study Pasteur's work. Its members included men whose names are familiar to every physician today: Sir James Paget, Sir Victor Horsley, Prof. Burdon Sanderson and one who is familiar to the general public, Lord Lister.

For fourteen months this commission worked. With animals inoculated by Pasteur himself they repeated his experiments over and over. They visited ninety persons who had been treated and studied their cases minutely. In the final report to the House of Commons the commission made this statement, deeply gratifying to Pasteur:

"It may therefore be considered as certain that M. Pasteur has discovered a prophylactic method against hydrophobia which may be compared to that of vaccination against smallpox. It would be difficult to overestimate the utility of this discovery, both from the point of view of its practical side and of its application to general pathology. We have here a new method of inoculation, or vaccination, as M. Pasteur sometimes calls it, and similar means might be employed to protect man and domestic animals against other virus as active as that of hydrophobia."

When Pasteur made his triumphant announcement to the Academy of Sciences Oct. 26, 1885, under the unspectacular title, "Method of Preventing Rabies After a Bite," Dr. Vulpian, a member who felt the keenest enthusiasm for Pasteur's work, suggested that a regular center for treatment of rabies ought to be established immediately. A service had been set up at the laboratory some weeks before, but the facilities were totally inadequate.

The Academy thereupon appointed a committee, which opened a campaign for public subscriptions. Vallery-Radot says that a great wave of enthusiasm swept over France and into foreign countries. Citizens from every walk of life contributed. From Alsace-Lorraine, the home of little Joseph Meister, came 43,000 francs, with Joseph's name among the subscribers. The czar of Russia sent 100,000 francs, in remembrance of Pasteur's service to his subjects. The emperor of Brazil and the sultan of Turkey were numbered among the donors. A huge benefit performance was organized by actors and musicians in Paris, at which the great Coquelin recited verses written for the occasion and Charles Gounod conducted one of his own compositions. The architect of the building refused to accept a fee and the builders took only their actual expenses, Descours reports in "Pasteur and His Work."

Thus was born the far famed Pasteur Institute, a monument to the achievements of a life of unremitting devotion to science and the welfare of humanity. It was opened Nov. 14, 1888. In the half century since then, branch institutes have been opened in many countries, staffed by Pasteur's disciples, who by applying and extending his methods are helping to eliminate infectious diseases from the catalogue of human woes.

Pasteur's original treatment with only slight modifications is still used and can now be given by any physician. In comparison with more widespread diseases, rabies is not or should not be a serious public health problem. Yet health officers are constantly obliged to issue warnings against it and continue the fight for control of dogs.

The health department of Ohio, for instance, recently reported that from Jan. 1, 1934, to March 15 this year, the state laboratory found that 416 out of 1,922 dogs' heads sent to the laboratory for examination showed infection with rabies. During the past ten years fifty-eight persons have died of rabies in Ohio, and other states can probably produce similar records. In these cases health officers usually find either that Pasteur treatment was not given or that it was begun too late to win the race with the deadly infection.

Pasteur's conquest of rabies was more than the climax to a distinguished career. It was the beginning of modern knowledge of infectious diseases, the new science of immunology. Not only did Pasteur's marvelous discoveries make rabies a rare disease; they pointed the way to control over the whole "world of the infinitely small." The steady progress being made today in laboratories all over the world in the perfection of serums, vaccines and antitoxins against diseases produced by unseen organisms owes its inception to the clear mind, the inexhaustible patience and the great humane spirit of Louis Pasteur.

To Eat or Not to Eat—

That Is the Question Discussed

SUCH MEALTIME MISDEMEANORS AS DAWDLING, TOYING WITH FOOD, AND THE REFUSAL TO EAT CERTAIN FOODS SHOULD NOT BE COUNTENANCED AND CERTAINLY SHOULD NOT BE ENCOURAGED BY SUCH INEXCUSABLE TACTICS AS ARGUING, BRIBING OR COAXING.

"SOME PEOPLE eat to live, and others live to eat" is an old saying which smacks of two ancient schools of philosophy, the Stoics and the Epicureans. These two types of prevailing attitudes and practices have been characteristic of man since he entered the class of "genus homo." They have perpetuated a mind set or a dominant feeling attitude which has been the forerunner of habit with respect to the choice between the unreasoning gratification of individual appetites and the control, modification or prohibition of sensory craving because of factors which demand intelligent consideration.

What are the main psychologic factors entering into this most primitive instinctive drive?

Physiologists tell us that we should distinguish hunger from appetite. Hunger is a natural sensation of more or less painful characteristics; it is located in the upper abdominal region and is due to the want of food. This stimulus gives rise to appetite, which is a pleasant feeling associated with the thought of a desire for food. In order to enjoy a good appetite, one must first of all experience hunger sensations, which arise only in an empty stomach. The natural relieving or satisfying agent to this reaction is food. Thus anything that retards the emptying of the stomach interferes with the stimulation of hunger sensations and in turn delays the experiencing of appetite. Some common factors which "spoil" appetite are poorly masticated food; improper foods, such as those which remain too long in the stomach, among which foods rich in fat, improperly fried and greasy foods may be leading offenders; foods eaten between meals; poor general health or sickness; poor habits of elimination, aggravated by lack of laxative and roughage foodstuffs; unpleasantly charged emotional atmosphere, worry, anxiety and abnormal mental conflicts.

WHAT light does clinical experience throw on the psychologic and mental-hygiene factors at work? This aspect of the problem is just as important as the physiologic factors since an

By FREDERICK L. PATRY

individual may have hunger sensations and therefore appetite, yet he may not eat, or he may not eat in a healthful or desirable manner.

There is an old saying, "You can lead a mule to water, but you cannot make him drink." Human nature is so constituted that human beings cannot be forced into doing or prohibited from doing things they really wish, want, crave or desire. Even ethical suasion, reason, argument and moral issues vanish into thin air when instinctive-emotional mainsprings are crossed.

On the other hand, personal example which wins favorable attitudes is the most potent and effective method in bringing about desirable habit training and education. Of particular moment is the form, type and quality of example woven into the personality during its most plastic years. This process of identification is augmented by such immensely important factors as love, respect, hero worship and admiration on the part of the learner with regard to the personal examples with which he daily rubs elbows. Preaching without precept in any educational field of endeavor merely serves to mock the one who preaches.

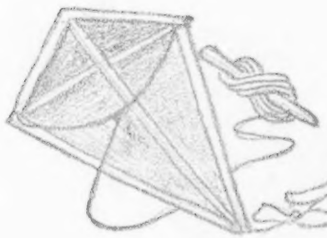
Much of the attention attracted to spinach in recent years may be laid not so much to its food value as to its attention-gaining value either through its acceptance or through its refusal. This should teach us to be more detached and less solicitous in regard to food values in dealing with children. If we, as adults, treat the various articles of a well balanced diet with an objective, matter-of-fact attitude, there will be little excuse for such inexcusable tactics as arguing, bribing, coaxing or promise making on the part of parent, teacher and nurse.

Particularly in days of economic depression should parents be ever mindful of the harmful effects of ventilating their fears, worries, anxieties, disappointments, senses of insecurity or feelings of futility or discouragement. Children are extremely sensitive mirrors which reflect every word and feeling, spoken or implied. The facial mental muscles are usually more significant than vocalized thought. Grumbling at the cost of food, or harping on inadequate resources to purchase the next meal, or cautioning Johnny or Mary not to eat too much may seriously interfere not only with the amount eaten but with the zest and pleasant emotional factors which are so important for good digestion and assimilation. On the other hand, it is poor psychology to place too much food on the table since the desire for it is apt to be inversely proportionate to its availability.

Finally, mention should be made of the time factor. Unquestionably, it is important that there should be a period of abstinence from food, preferably about five hours between meals; also one should not continue unduly in the eating process. One-half hour is usually long enough for children as well as for most adults. This does not mean that the meal should be hurried or, on the other hand, that one should try to beat one's own or one's fellow's eating score. Dawdling and toying with food should not be countenanced. Likewise, refusal to eat certain foods and other mealtime misdemeanors should lead to termination of the meal, without comment and without letting the wilful child get a rise out of the parent or nurse.

I have attempted to bring to the front certain experience-born principles and practices concerning the mental hygiene of eating. Merely the surface of such a manifoldly involved problem could be scratched in such short space. However, it is felt that the essential facts herein stated should prove helpful in gaining a better understanding of the functioning and reconstruction of varying degrees of difficulties clustering about this topic.

Recreation for Convalescent Children



An Article on Helping the Handicapped

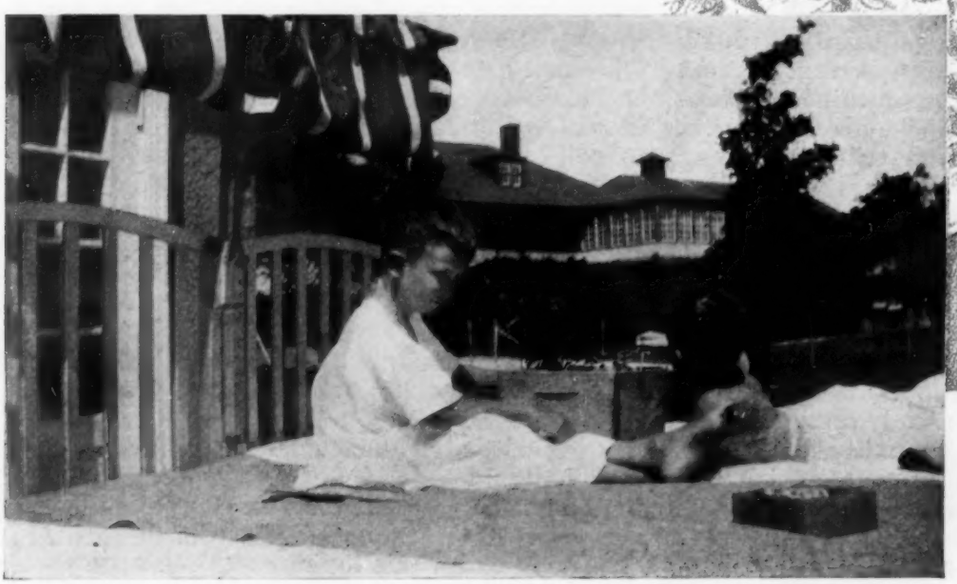
By SOPHIA POTGIETER

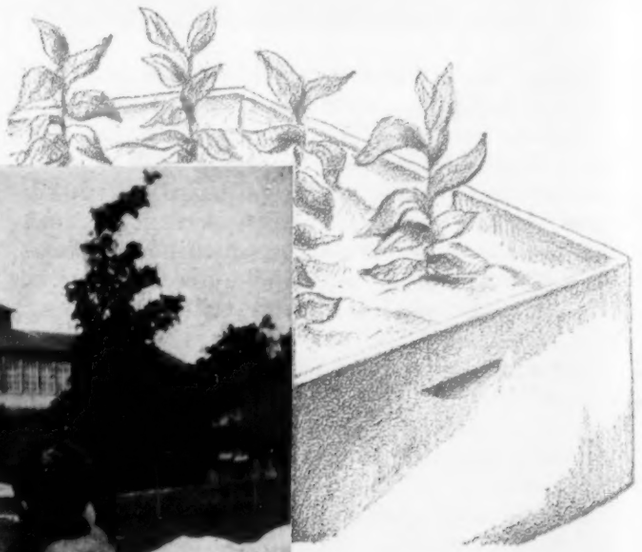
NO GROUP of convalescent bed patients is more in need of a varied recreational program than are the orthopedic patients. Children suffering from tuberculous joints, for instance, will be most appreciative of diversified entertainment. These children must spend months and sometimes years in bed, and because of large casts or extension apparatus they cannot enjoy the activities permitted to other bed patients. When planning the child's recreational program his age, general condition and physical handicap should be considered. It must also be remembered that the less strenuous activities should take place in the latter part of the day.

The child's entertainment will be more interesting and more profitable if it serves a definite purpose. For holidays or special occasions, activities can be made to center around the making of gifts or decorations. But during the long, uneventful weeks between holidays it is more difficult to find something to occupy the sick child's time. Amusements suitable to the season will be found exceedingly valuable.

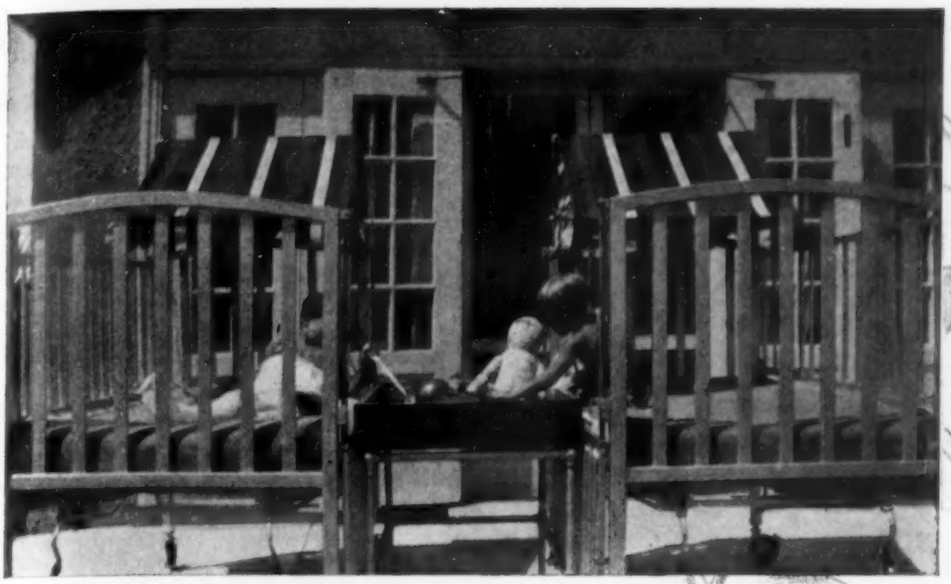
In one convalescent home two boys who were confined to their beds with tuberculosis of the hip decided they wanted gardens of their own. When they saw the ambulatory patients planting seeds in their little plots of ground, they asked whether they could have a box of dirt to make a garden. A portable garden was made by filling a wooden box, 15 inches wide, 20 inches long and 12 inches deep, with rich loam. To protect the beds the box was placed on a large metal tray under which a piece of oilcloth had been spread. The beds were pushed close together so that the boys could work in the cooperative garden at the same time. After preparing the soil and deciding to make a combination vegetable and flower garden, they called for radish and petunia seeds. These boys were fortunate enough to be able to have their beds wheeled outdoors so that they could do the cultivating in the warm sunshine. Imagine the joy of these children when finally a few radishes were large enough to eat! It was a red-letter day when the radishes were pulled up, washed and served on the boys' dinner trays.

Another enjoyable occupation for convalescent children in the springtime is kite making. The required materials are several thin sticks

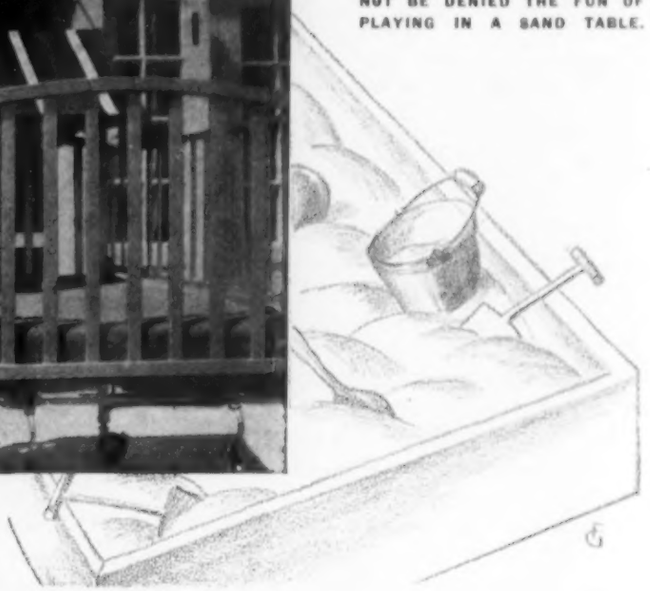




THEIR BEDS WERE WHEELED OUTDOORS, AND IN THE WARM SUNSHINE THEY CULTIVATED RADISHES AND PETUNIAS IN THEIR COOPERATIVE GARDEN.



CHILDREN WHO MUST BE CONFINED TO THEIR BEDS NEED NOT BE DENIED THE FUN OF PLAYING IN A SAND TABLE.

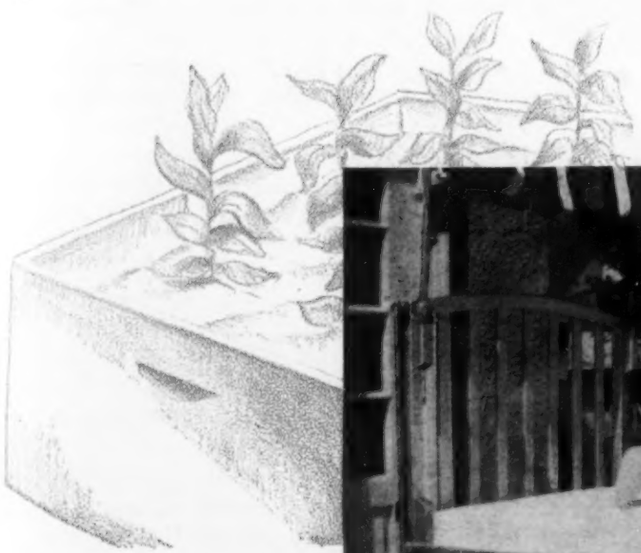


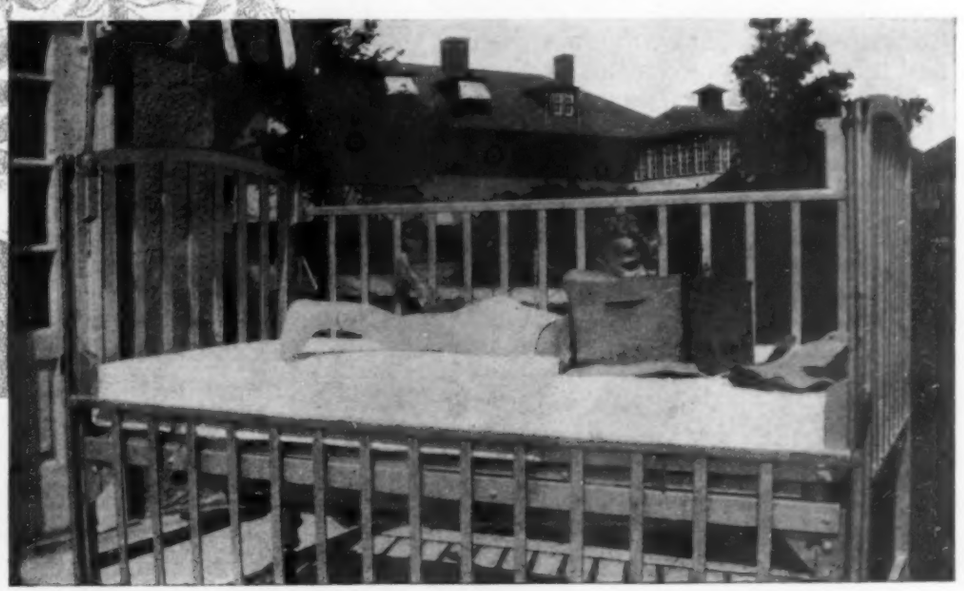
cut from an orange crate, some wrapping paper, string and paste. The inexperienced or greatly handicapped patient may require the assistance of an adult. One boy became so enthusiastic that he refused to wait until he was given material for the tail of his kite. Instead, he tore strips from his bed spread. Such enthusiasm on the part of one who had spent more than six months in bed in a body cast was worth several bed spreads.

If the child's bed can be moved outdoors or near an open window he can hold the string after his kite is in the air. Any one who has ever flown a kite knows the thrill of feeling the tug of a kite flying high in the sky. This sense of freedom and escape is even more stimulating and exhilarating to a child who is compelled to be inactive.

Children who must be confined to their beds need not be denied the fun of playing in a sand table. It may be mounted on a frame fitted with castors and adapted to the level of the bed and the convenience of the patient. If the box is too high or too low the child's arms will tire easily. Small branches, mirrors and cardboard cut-outs may be used to construct scenes from some story which the child has read. If the patient's handicap does not permit him to lean out of bed to play in the sand, a small box can be placed directly on his bed. A strip of denim or any other strong washable cotton will protect the bed.

Both the sand box and the garden therefore give sick children opportunity for group play, which is so necessary for all children and especially for the child who has been deprived of normal childhood activities.





A GARDEN IN A BOX MAY BE A SOURCE OF IMMEASURABLE JOY TO THE HANDICAPPED OR THE CONVALESCENT CHILD WHO MUST BE KEPT IN BED.

THOMAS TYCOON'S TIRADE

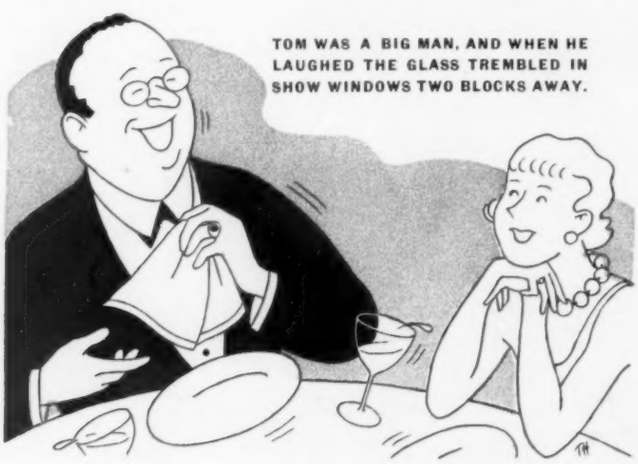
More Truth Than Fable

By W. W. BAUER

THOMAS TYCOON was a Big Man. He weighed Two Hundred pounds and then some and stood Six Feet One with or without Socks. He was a Big man in Big business. He did Big things in a Big way. He was Big enough so that he could Brag that even his mistakes were Big, or would be if he ever made Any, which he didn't Expect to. Not only was Tycoon a Big man, but he admitted it in a big Way, and he had a large Respect for himself, because he had made himself Big. He admitted that, too.

Naturally Nobody could tell Mr. Tycoon anything. He knew all he wanted to know, and What he didn't know wasn't So. For fifty-four Years he had been growing Surer and Surer that what Tom Tycoon said and did was Right in a Big way. It got so finally that nobody tried to Contradict him, least of all his wife and Children. At that, Tom wasn't a bad fellow, in his Way. He made money Fast, even when everybody else was Losing it. He spent it Fast, too, and had a good time out of Life, without getting into Trouble or hurting his Reputation or anybody Else's. His private life was Nobody's Business, because Tom wouldn't have Stood for anybody Nosing into it. But if they had, they would not Have found a Thing to get Hot and Bothered about. All Tom's Big times were Good clean fun, and not a Scandal in a Carload. When Tom laughed the Glass trembled in Show windows two blocks away, but his Parties were never Rough.

Tom didn't know what it Meant to get Tired. He didn't have any Sympathy for people who got Tired. He never got tired, and he didn't know what it was all About. He never had a Sick day in his Life. The only time he ever Consulted a Doctor was across the bridge table, and then he did more Insulting than Consulting. All in Fun, of course. Some of Tom's jokes had a wallop like a Mule's kick, but his Intentions were friendly, and his friends soon found out how to Take him. Those who weren't his Friends took him because he was Thomas Tycoon, the Big business man, and they Might need his Good Will some day. Tom's doctor, that is to say, the Doctor for Tom's family, was Tom's personal friend. He was the Only person who ever told Tom where to head in. Tom laughed Louder than ever.



It happened just before a Big .bridge fight that Tom's wife pulled off as a Surprise for Tom on his Fifty-fifth birthday. She told Tom she was inviting the Doctor and his wife Over for an Evening of Bridge. Just a Quiet evening by Themselves. Tycoon said that would be Okay with him. While they were waiting for Dinner, Tom and the Doctor sat talking before the Fireplace in the living Room. Tom was telling about the Deal he had just put Through, and how he had been at it three Days and Nights without Sleep. The doctor said anybody was Crazy to work like that, but Tom laughed and said it was Fun. A short Life and a Merry one, the doctor remarked, was all right for Anybody that wanted to live that Way. Tom laughed louder than ever and offered the Medico another Drink.

"Thanks," the doctor said. "What's your Blood pressure?"

"How should I know?" Tycoon chortled.

"Your face is Red," the doctor answered.

"Better Red than pale," said Tom.

"How much do you Eat?" said the doctor.

"Early and Often, and whatever I want. Why?"

"Nothing. I just wondered."

"Who gave you a License to wonder?" demanded Tycoon, a little Peeved.

"Knowing you all my Life," the doctor answered. "And suspecting that I'll live a Lot longer than You."

"That's a Laugh!"

"Maybe. Maybe not."

"Say, look here," Tycoon barked. "Are you trying to pull a Fast one on me? Where do you get that Stuff?"

"How much money have you got—no, that's None of my Business. I meant to ask, do you Know how much money you've Got?"

"Sure—within a small per cent."

"Uh-huh."

"Uh-huh? Say, you Crepe Hanger, come out with It. What are you Driving at?"

"Do you get a Financial statement from your Companies every six Months?"

"You tell 'em I do!"

"Uh-huh."

"Lay off that 'uh-huh' Stuff. What's Eating you anyhow?"

"Do you Check up on your Investments?"

"That's a Sap question!"

"Uh-huh."

"One more 'uh-huh' out of you, Young feller, and I'll heave Something at you. What are you trying to Hang on me, anyhow?"

"Who's the Boss in your Concerns?"

"You're asking Me?"

"Uh-huh."

Tycoon wasn't laughing any More, and his Face was getting Redder and Redder as he got Madder and Madder. He had a Hunch he knew what the Doctor was driving at, but he wouldn't Admit it, not by a Jugful. The doctor wasn't Through with him yet, though. "Anybody could Take your Place, of course," he said.

"W-well," Tom answered, "nobody was ever so Good that Somebody couldn't . . ."

"Uh-huh."

"No, damn It, that's the Bunk. Nobody could take my Place right now."

"Uh-huh."

"Shut up," Tycoon yelled, and Heaved his glass into the Fireplace. "I know what you're Driving at."

"Sauce for the Goose . . ."

"Not for this Gander! You don't Get me into your Office for a Once-over. Not when I'm going as good as I am. Suppose I have got Dandruff and athlete's Foot and Halitosis and B.O.? What if I don't know a Thing about the Danger Line? Who cares? I'm sittin' on Top of the World with a Fence around a downhill Pull—or whatever the saying is, and that's Where I'm going to Stay until some Guy comes along that's Big enough to Pull me Down. And if I've got the Pep and the—the—"

"Uh-huh."

"I'm not like a Bond. I can take Care of myself."

"You can, but you Don't."

"I do, all I Need to."

"No, you Don't, Tommy, old boy. You don't know right Now what the condition of your Heart is or your Arteries or your Kidneys. You haven't the Least idea what your Blood pressure is. You know all about all your Business deals, but you don't know a Thing about what makes the Whole system Click. You haven't the least Idea when the Spark of the Engine will flicker and Die."

"Bunk!"

"Okay, old man. Have it Your Way."

"All bunk. Fine on Paper, but it doesn't mean a Thing. Let's eat."

"I hope I'm wrong about You. I've been Right about some Others."

THOMAS TYCOON WASN'T LAUGHING ANY MORE.

"Weak Sisters. I know who you Mean. Milksops!"

"Well, let's eat, as you Said."

So they Ate, and they bridge-wrangled until All hours. They had another Drink or several, and they had a Lunch at midnight before they Parted company. The Next morning Tycoon was on the Job early, going at top Speed all Day, and Home for another party in the Evening. Six Months went by, and Tycoon was still going Strong. At least he Looked that way. Privately, he wondered why his Wind was a little Short, and he had a tight Feeling in his Chest. He laughed it off, but Laughing too hard made it Worse. It caught him Sharp one time when he got Mad and was talking over the phone with one of his Brokers. It made him sweat, and he had to Hang up. His face wasn't Red when he took a Look at it. It was White and Pinched. He Swore and took a Stiff drink, and then Sat still for a long time. It hurt his Chest badly to move.

In a couple of Days he felt Better. He met the Doctor, who gave him a Sharp look but said Nothing. So did Tom. He didn't stay Near the Doctor Long. It made him Uncomfortable. They had lunch together, and Tycoon started for his office, changed his Mind and went Home.

Just as the doctor sat down for Dinner that Night, a phone call Came in. It was from Tom's wife, and she could hardly Talk. Tom, she said, was Lying face down on the Bed, with his dress Clothes half on, and she Couldn't rouse him. She was scared . . .

The Doctor didn't Wait. He was over at Tycoon's house in Less time than it Takes to tell about it. Tom, as he had expected, was Dead. Big business Magnates died just that Way, often. Mentally, the Doctor saw the death Certificate which he would Sign, giving the cause of Death, "Angina pectoris." And he might Add, too much Speed, too high Pressure and no Control.

MORAL: Who's Afraid of the Big Bad Wolf?

The Prevention of Mental

MOST PEOPLE like to think that mental disease is something in which they have no reason to be interested. They believe it is a rare condition which will probably never touch them in any way.

Such a point of view is utterly false. Mental disease is not a rare condition. And no one escapes the effects of it in one way or another. Even the most severe forms, commonly called insanity, should be of interest to us. For whether or not we escape having them, we cannot escape paying our share of what they cost.

A few statistics will bear this out. There are, in the United States, more beds in hospitals for mental diseases than for all other diseases combined. Most of these beds are in state hospitals, and the public helps to pay for them. New York State alone, in the past few years, has issued 150 million dollars' worth of bonds to build new buildings, most of them state mental hospitals. Only by such heroic efforts can the states keep up with the rapid increase in the incidence of insanity.

Statistics show that one child in each group of twenty boys and girls, now 15 years old, will be sent at some time during his or her life to a hospital for mental disease to spend, on the average, over seven years there. In other words, at the age of 15, the chance that insanity will develop later in life is 1 in 20.

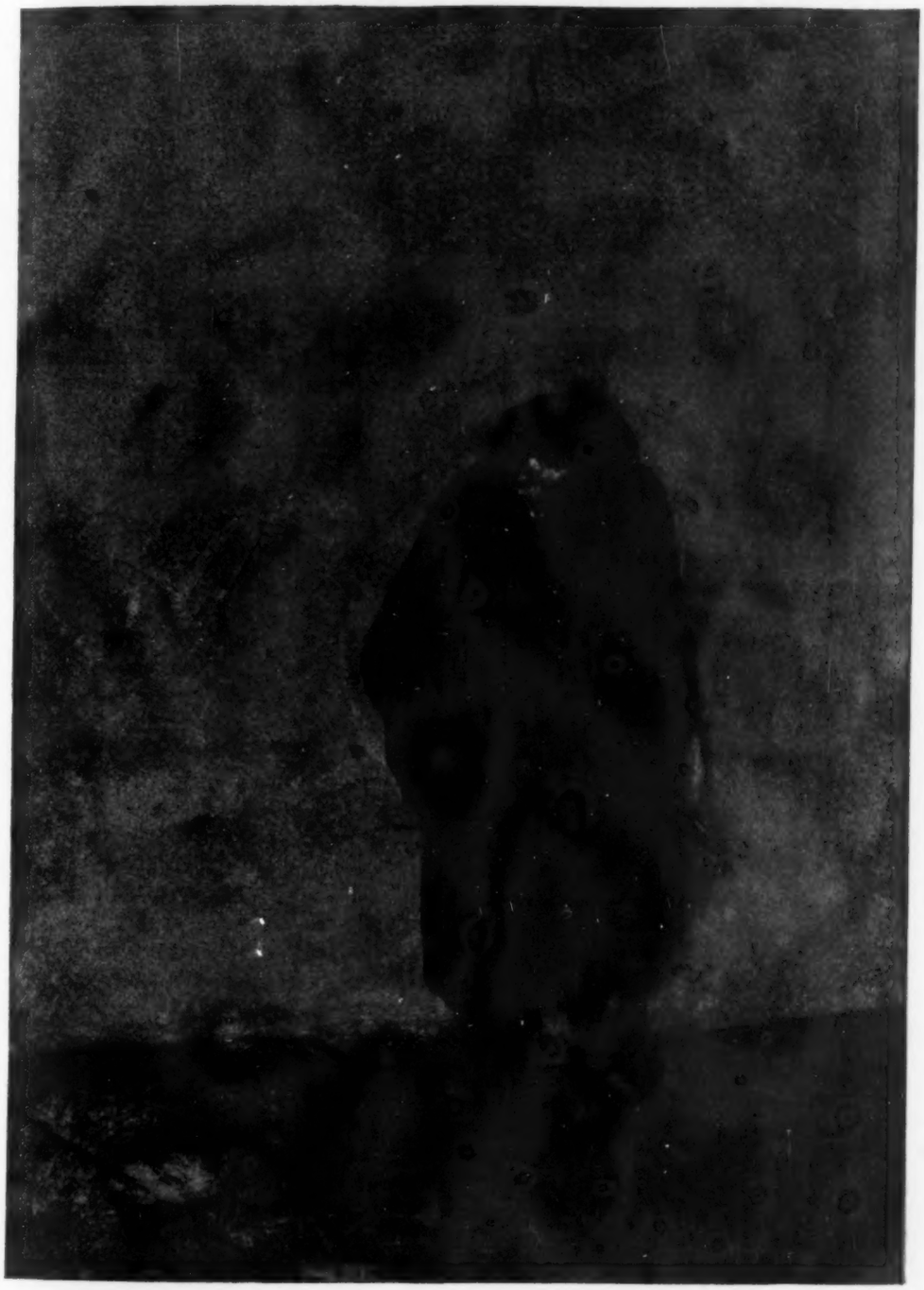
IN ADDITION, mental disease plays a large part in the production of crime. According to a recent estimate, crime costs the country 15 billion dollars annually, or more than three times the normal annual cost of the federal government. If these crime costs were levied like federal taxes and added to them, our federal income tax would be four times as great as the present high rate. We would pay a tax of 24 cents on each package of twenty cigarets, and so on. The cost of crime is, in part at least, an additional cost of mental disease. Therefore the problem of preventing mental disease is important to every one.

Not so long ago most of us had a peculiar attitude toward tuberculosis. We looked on the disease as a disgrace. Those in whom it developed would keep the condition secret as long as possible instead of seeking the early diagnosis and treatment which offer such excellent chances for a cure. They waited until their lungs were riddled and the condition was hopeless before they were willing to admit what ailed them. Meantime they called it a bad cold and continued to scatter tuberculosis germs by the millions among their relatives and friends. So long as this attitude toward tuberculosis continued, nothing could be done to prevent it. On the contrary, as soon as people were willing to face the facts, the death rate from tuberculosis began to decline.

Our present attitude toward mental disease closely parallels this foolish attitude toward tuberculosis. Most of us are willing to admit that others may be crazy, especially when they disagree with us. We are all like the old Quaker

Disease

By F. W. DERSHIMER



THE COST OF CRIME IS, IN PART AT LEAST, AN ADDITIONAL COST OF MENTAL DISEASE. THEREFORE THE PROBLEM OF PREVENTING MENTAL DISEASE IS OF INCALCULABLE IMPORTANCE TO EVERY ONE.

who said to his wife, "Every one seems queer except me and thee, and sometimes even thee seems a little queer." But when any one suggests that we are queer, we resent it. We look on mental disease as a disgrace and, with rare exceptions, refuse to consider seriously the possibility that we may be suffering from it even in a slight degree. As was true with tuberculosis, this attitude constitutes the greatest handicap in prevention.

From the standpoint of prevention of mental disease the insane who are confined in the hospitals are of little importance. Since they have been isolated, they are not a menace to the mental health of others. Here again there is a parallel with physical infections. The patient with a severe case of scarlet fever must go to bed. He comes in contact only with those who attend him, and they, recognizing the disease, can take steps to protect themselves. The patient

with scarlet fever who is most dangerous to the public health is the one with a mild case who feels well enough to go about as usual and who shows such slight evidence of the disease that those who meet him do not have any suspicion of their danger. So it is with mental disease. It is not usually transmitted by those who are considered insane but by others who are considered mentally normal; in other words, by those who are outside the mental hospitals.

Because this is true, the first step toward the prevention of mental disease must be recognition of the fact that all of us suffer from it to some extent. Likewise, that each of us is capable of transmitting it to others. I do not mean that we are all insane. But the same disease which manifests itself in 5 per cent of us as insanity exists in other forms. What are these other forms? To describe them all would require a large book. They will therefore be indicated only briefly and in general terms.

One form is nervousness. This is not a disease of the nerves at all but a very common form of mental disease.

Another group of mental disorders includes many forms of misbehavior of both children and adults. This, of course, includes crime, excessive drinking, addiction to drugs and the perversions.

Still another group comprises a considerable percentage of the cases which are apparently physical diseases. Some authorities believe that about half of all the people who consult physicians are actually suffering from mental conditions which have so affected the body that physical symptoms are manifested. This opinion is borne out by the large percentage of people who, apparently suffering from physical conditions, believe they are helped by quacks and faddists. Temporary relief from mental disease is sometimes given by mental suggestion. However, a relapse usually follows, because suggestion seldom gives permanent results.

The last group to be mentioned includes all our unreasonable fears and superstitions, our bigotries, prejudices and fanatacisms. These are so common that we accept them as natural and normal.

If we have the courage to face the truth, many of us will find ourselves belonging in one or more of these groups. We must therefore admit that we suffer from some degree of mental disease and may therefore transmit it to others. Since this is true, our common attitude toward mental disease is itself evidence that we have it, because this attitude is unreasonable. From any sensible point of view, no reason can be found for looking on mental disease as a disgrace and attempting to hide it.

For one thing, it cannot be hidden. Our mental kinks become obvious to those with whom we associate. Like the trick attributed to the ostrich of sticking his head in the sand, any attempt to hide mental disease makes it all the more conspicuous.

In the second place, there is no reason to hide it. Many famous men have shown definite signs of mental disease in one form or another. Both Caesar and Napoleon, for example, had fits of some sort, probably hysteria or epilepsy.

What if we do admit all these things and accept the fact that all of us are victims of mental disease? What can be done about it? One important reason why people have been so loath to admit the possible presence of mental disease has been the common belief that mental disease is a hopeless, incurable condition. Such a belief is based on ignorance. Even in severe cases, necessitating the patients' removal to a mental hospital, statistics show that the percentages of improvement and recovery are as high as among patients with physical diseases who are sent to general hospitals. So insanity is far from a hopeless condition. A change of attitude toward mental disease will drive us to seek treatment earlier at the first symptoms. This, in turn, would result in a still further increase in the percentage of recovery.

The following case shows clearly what can be accomplished by the detection and treatment of mental disease. The boy under observation excitedly declared that he was looking for assistants to help him in carrying out a great project. He was going to feed all the unemployed people in the world. Questions showed that he believed he heard voices.

The boy was obviously insane. He did not show any signs of being dangerous to himself or others, however, and consequently he was not sent to a hospital for mental diseases. Instead, arrangements were made for weekly treatments.

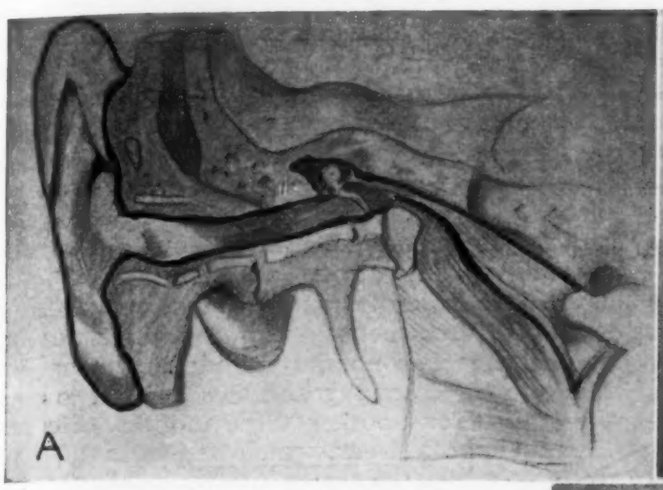
He showed a rapid improvement and returned to school after a few weeks. His principal reported that he behaved normally from that time. When reexamined a short time ago, he seemed perfectly normal.

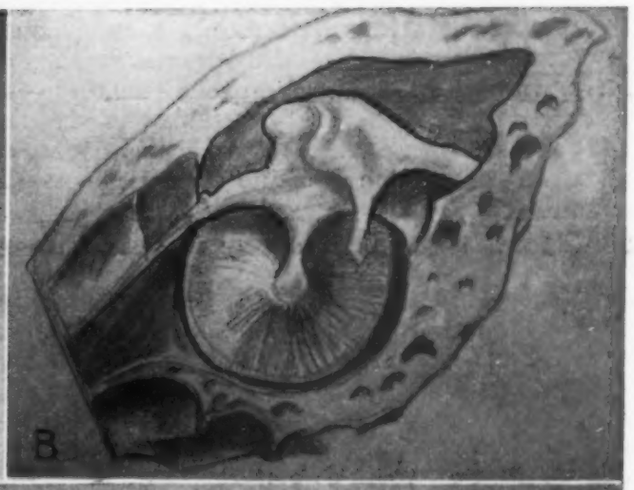
It is best, of course, to discover cases before they have developed as far as this, in order that the conditions responsible for the illness may be changed and treatment begun immediately. This case served to emphasize the fact that even in its extreme forms, mental disease can often be cured if it is recognized and is properly treated.

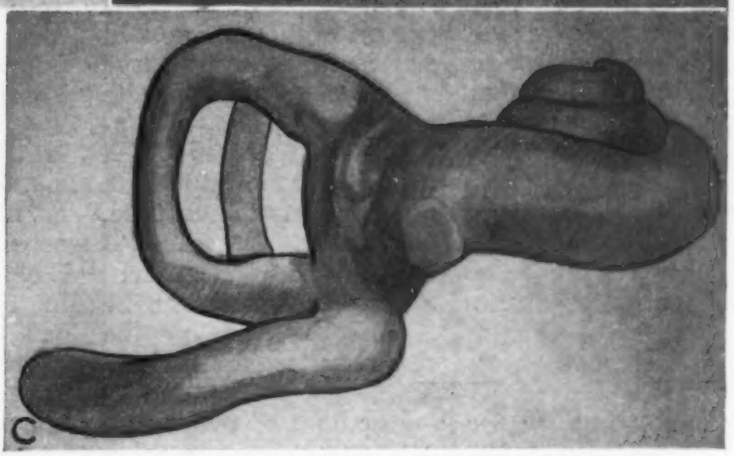
But early recognition and treatment of individual cases is not enough. Mental disease is so widespread that we cannot hope to make rapid inroads on it until we change our present attitude of ignorance concerning it. As long as we prefer to hide our heads under the covers, like children afraid of the dark, little can be done toward the general prevention of mental disease.

The Hard of Hearing

By I. A. DRUES







THE OUTER EAR, THE MIDDLE EAR AND THE EUSTACHIAN TUBE ARE SHOWN IN DIAGRAM A. THE SOUND WAVES, CAUGHT BY THE SHELL-LIKE OUTER EAR, ARE CARRIED THROUGH A CANAL TO THE DRUM IN THE MIDDLE EAR, WHERE THE EUSTACHIAN TUBE EQUALIZES THE PRESSURE ON THE DRUM.

IN THE MIDDLE EAR ARE LOCATED THE DRUM AND THE EAR BONES (B), THE ENTRANCE TO THE MASTOID, AND THE EUSTACHIAN TUBE, WHICH LEADS TO THE BACK OF THE NOSE. CLOSURE OF THE EUSTACHIAN TUBE AND INFECTION OF THE MIDDLE EAR ARE COMMON CAUSES OF IMPAIRED HEARING.

THE INNER EAR IS A SPIRAL ORGAN, LINED WITH DIFFERENT SIZED HAIRS LIKE PIANO STRINGS, FOR RECEIVING THE DIFFERENT PITCHES OF SOUND. CONNECTED WITH THIS ORGAN, AS SHOWN IN DIAGRAM C, ARE THREE SMALL SEMICIRCULAR CANALS BY MEANS OF WHICH WE MAINTAIN OUR BALANCE.

IN ORDER to understand the causes of hardness of hearing it will be necessary to study the organ of hearing. This is usually divided into three chief parts, the outer, the middle and the inner ear. The outer ear has two parts, the outer shell-like organ for catching the sound waves, and a canal, which carries these waves to the drum. This canal is lined with hairs to filter out dirt and dust, and it is here that wax is formed.

In the middle ear are located the drum, the three little ear bones, the entrance to the mastoid, and the tube to the back of the nose. This tube is called the eustachian tube, and its function is to equalize the pressure on the two sides of the drum.

The inner ear is a spiral organ, lined with different sized hairs like piano strings, for receiving the different pitches of sound. Directly connected with this organ are the three little semicircular canals, by means of which we maintain our balance.

The outer ear collects the sound waves which then hit the drum and set it vibrating. This vibration is carried by the ear bones to the inner ear, which is filled with fluid. The little hairs in the inner ear pick up the vibration, which is transmitted to the brain by the nerve fibers. Any defect from the external ear to the brain can cause impairment of hearing.

After this explanation of the structure of the ear, we can go on to the causes of deafness in the order of their frequency. Wax in the canal is the most common cause of hardness of hearing. Contrary to the usual opinion, the amount of wax in the canal is no criterion of the cleanliness of the individual. Wax is a normal product of the canal, but if it forms in a sufficient quantity to obstruct the hearing it should be removed by an ear specialist. Toothpicks and hairpins are not the proper instruments for cleaning the ear. As one famous ear specialist has said, "The patient should not put anything smaller than the elbow in the ear."

The next common cause of impaired hearing is closure of the eustachian tube. In children this is usually due to enlarged adenoids, and in adults it is caused by the common head cold. When the tube is closed the air in the middle ear is absorbed and the drum is drawn in. If the tube opens soon, the hearing is restored; but if it stays closed a long time or if the process is repeated often, then the impairment of the hearing becomes permanent.

What is the treatment for this condition? First, enlarged tonsils and adenoids which are giving trouble should be removed; second, head colds should be attended to promptly. If the tube remains closed after the cold is cured, a physician should be consulted. A little metal cannula can be inserted into the tube, and air can be blown into the middle ear, restoring the equilibrium of the drum. Of course, abnormalities of the nose, like crooked septums, should be corrected, and nasal growths, such as polypi, should be removed.

ANOTHER common cause of impairment of hearing is infection of the middle ear, or abscess of the ear as it is sometimes called. This usually follows the common cold also, and in children its development is favored by large adenoids. Other causes of trouble in the middle ear are scarlet fever, measles, influenza, whooping cough and other contagious diseases which involve the nose and throat. The infection spreads to the ear through the eustachian tube. Pus is formed, and this causes the drum to bulge, resulting in severe earache. If the patient sees a physician immediately, he will open the drum with a clean incision and drain out the pus. Then when healing takes place the incision will close.

If this is not done, one or both of two things may happen. The drum may burst and form a large round opening which does not close and which causes permanent impairment of hearing; or the pressure may force the infection into the mastoid. When this happens it is usually necessary to chisel away part of the bone to allow the pus to escape and to prevent the infection from traveling to the brain.

Now, what can the layman do to prevent these serious complications? First, he must see that every cold is promptly treated; second, if an earache develops in the course of a cold or contagious disease or in fact at any time, he should consult a physician, preferably an ear specialist.

THE question of artificial ear drums may well be taken up at this time. Long ago, aurists discovered that drums which had holes in them could be improved somewhat by patching the holes with thin parchment or tissue paper, provided there was no nerve involvement and no discharge from the ear. Unscrupulous manufacturers have seized on this idea as an opportunity to foist on the public these little rubber disks to be put in the ear, whether or not such treatment is suitable.

Many cases are on record in which these little rubber disks have been inserted in the ear and have become lost to sight. They remain in the ear, fester and fall to pieces. Sometimes a hole is punctured in the drum even when there was no hole there previously. If you are interested in conserving your hearing, avoid the artificial ear drum, even though it is "guaranteed or your money refunded."

Another fraudulent treatment for deafness is illustrated in the following case: A patient who was hard of hearing in the right ear but whose left ear was perfectly normal saw an advertisement in the paper for a cure for deafness and sent for the medicine. The treatment consisted in snuffing some strong medicine up the nose, closing the front of the nose and blowing. After a course of treatment which lasted three months, the hearing was not improved; so the patient wrote to the company and was advised to take the course for another three months. He did this; and the left ear, which had been all right up to this time, began to lose its hearing under this treatment, while the right ear was not improved. The patient wrote the company that his hearing was getting worse; but, although he had been promised a refund if the treatment failed, he was merely told to continue the treatments. Fearing that if he did so he would lose his hearing entirely, he let the matter drop. Let us examine this treatment more in detail. Essentially, it consists in increasing the pressure in the nose, thus forcing air through the eustachian tube. If the deafness is due to closure of this tube the treatment may improve the hearing; in all other cases it is of no value. However, even in cases where it improves the hearing, the dangers are greater than the benefits because the pressure may force pus and germs from the nose into the middle ear, causing infection and all its complications. Ear specialists never inflate the ear when there is an infection. Later, when the acute cold is cured, they usually use a little cannula which fits directly into the eustachian tube.

Diseases of the internal ear and nervous system may be considered together; syphilis and tuberculosis cause a great deal of damage to this part of the hearing mechanism. However, any poison formed in the body may damage the hearing. Profound deafness often follows an attack of mumps.

Infection from the teeth, tonsils or sinuses also may damage the nerve of the ear. Head injuries, especially those causing fracture of the bone in which the ear lies, can cause complete deafness on the side involved. In all these cases, prevention is better than cure. After the deafness has developed, little can be done to improve the hearing. However, much can be done for

prevention, by proper hygiene, by the use of vaccines and antitoxins and by enforcing quarantine regulations.

There is still a large group of deaf patients in whom it is impossible to find the cause of the affliction. Most of them are born deaf; perhaps there is a weakness or an absence of an essential part of the internal ear. Most of this group are perfectly normal in every other way, and some are exceedingly clever. In fact they have an advantage over the average person in that they are not continually distracted by outside noises, such as the neighbor's radio, for example.

WHAT can be done for these children and for all those whose hearing cannot be improved? Shall they be condemned to lifelong dependence? They have answered the question themselves. They hold themselves on an economic equality with the rest of their fellow citizens and ask no alms or favors of any kind. However, there is one thing that can be done and is being done. Special training in lip reading and in sound formation puts them on almost perfect equality with the rest of mankind. They hear with their eyes, and they learn to talk, not by hearing, as do those with unimpaired auditory faculties, but by the senses of touch and sight.

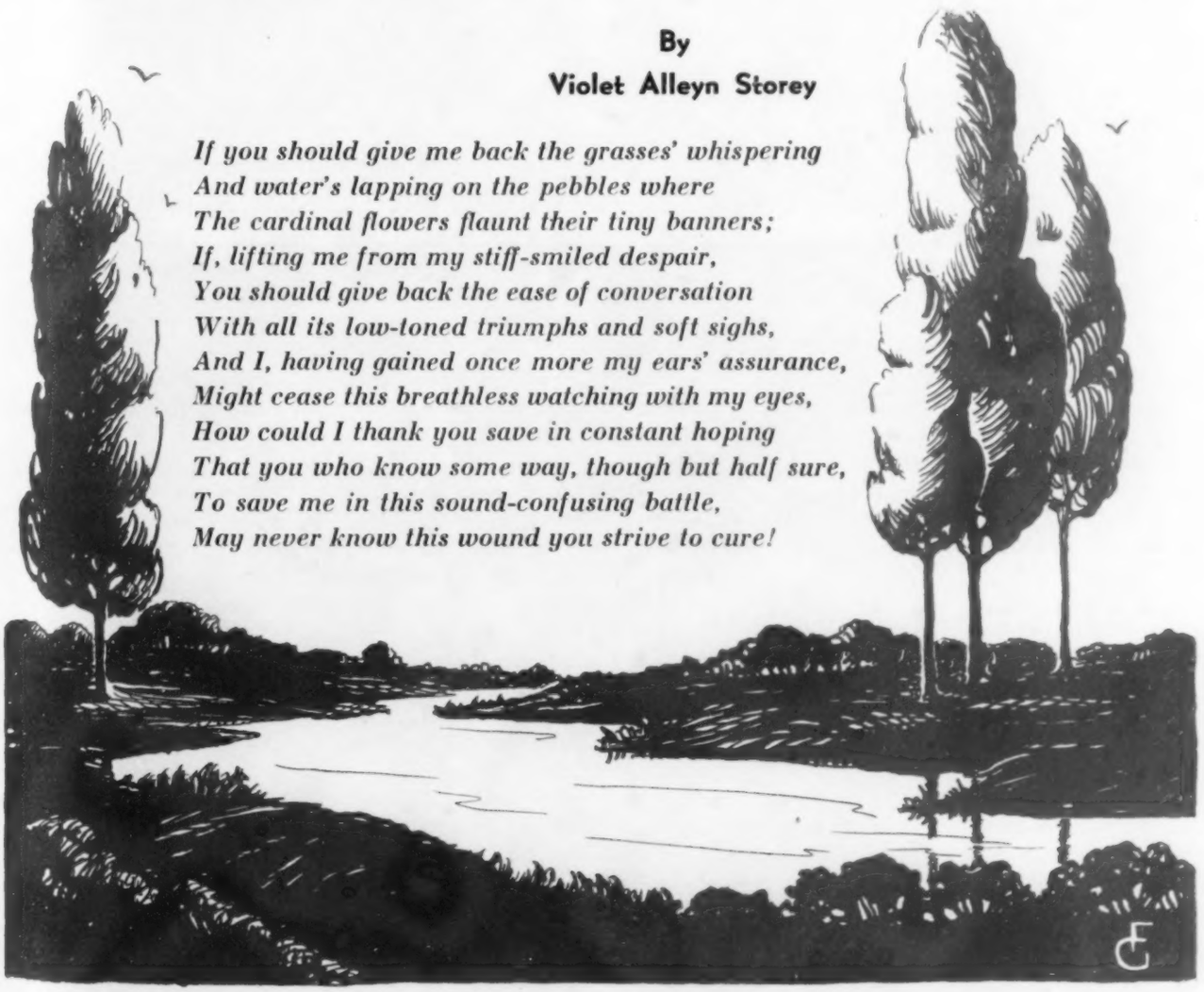
Much time and money are being spent by medical bodies and organizations for the hard of hearing in order to find out more about the cause and cure for this condition.

Most deafness is preventable; but if it does occur, the help and guidance of a physician should be sought.

TO AN AURIST

By
Violet Alleyn Storey

If you should give me back the grasses' whispering
And water's lapping on the pebbles where
The cardinal flowers flaunt their tiny banners;
If, lifting me from my stiff-smiled despair,
You should give back the ease of conversation
With all its low-toned triumphs and soft sighs,
And I, having gained once more my ears' assurance,
Might cease this breathless watching with my eyes,
How could I thank you save in constant hoping
That you who know some way, though but half sure,
To save me in this sound-confusing battle,
May never know this wound you strive to cure!



A HOUSEWIFE LOOKS at

XXII. Committee Acceptance of Salad Dressings

By DORIS W. McCRAY

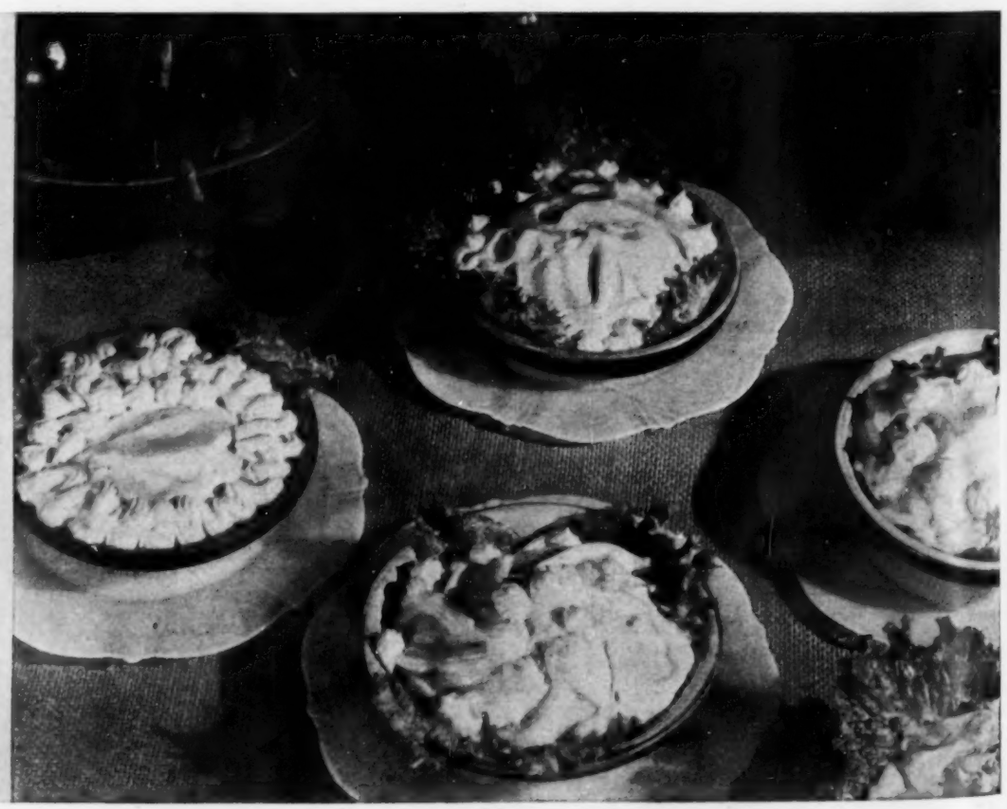
SALADS have assumed national importance. Lettuce and other salad greens, together with mayonnaise, are valuable foods in the diet; attractive and nutritious the year round, they are particularly appealing in hot weather.

I choose salad dressings that bear on the label the Seal of Acceptance of the Committee on Foods of the American Medical Association in order that I may have assurance that the salad dressings are wholesome foods, honestly advertised.

I distinctly remember making my first mayonnaise. Every bowl was chilled, together with the carefully measured ingredients. The salad oil was added, drop by drop, while I turned the egg beater continuously until my arms ached. The task was made much easier with the purchase of my electric mixer, but several difficulties remained. Sometimes the mayonnaise would separate or become oily on the surface after it was made. The task seemed tedious. I did not know how to season and spice the mayonnaise in order to obtain the delectable flavor of the commercially prepared product. It seemed as cheap and far less troublesome to buy jars of mayonnaise from the grocer. Thousands of other women share this opinion. Many have not attempted to make mayonnaise, or they have tried and failed. Many do not like boiled dressings made in the home, and they find them bothersome to mix.

I VISITED a huge mayonnaise factory in order to learn about the preparation of salad dressings which are included among the foods accepted by the Committee on Foods. I was much impressed with the cleanliness of the establishment. It appeared that the entire plant was built so that it could be scrubbed and scalded daily. The tile walls and floors with drains resembled those of a modern dairy. Visitors are rather infrequent. I was told that all employees must be physically fit, they must have clean finger nails, and they are required to don clean white uniforms after they reach the factory each day.

The entire mayonnaise making apparatus is thoroughly washed as soon as it has been used,



THESE SALADS, WHICH HAVE BEEN GAILY DECORATED AND ATTRACTIVELY MASKED WITH MAYONNAISE, MAY FORM THE MAIN DISH AT EITHER A SUPPER OR A LUNCHEON.

the COMMITTEE ON FOODS

or once a day. Since the product is perishable, it is made only in amounts to fill orders and put into refrigerated cars for shipment. The bowls, homogenizer and other equipment are retinned frequently, in order that exposed metal beneath the tin may not contaminate the mayonnaise even in slight traces and perhaps impart a metallic flavor. Minute traces of such metals as copper and iron, taken up into mayonnaise from equipment, may produce rancidity with its accompanying disagreeable flavor and odor. This state of incipient rancidity can be discovered by the factory chemist. Rancidity may also deleteriously affect the potency of the vitamins of the egg yolk. The egg yolk mixture must not be allowed to dry on the bowls, since it would give a stale flavor to subsequent batches of dressing.

Homemakers know that a salad dressing is no better than the ingredients that go into its making. One must have good eggs; these may be either fresh eggs or eggs that have been kept in fresh condition under modern, carefully controlled cold storage. One must have good clear oil, free from any rancid flavor or foreign odor. Spoilage of vegetable products such as pimentos, pickles, onions, cauliflower, nuts and tomato products is frequently encountered. The vegetables mixed with mayonnaise for sandwich spread must be properly processed or pickled before they are added to the salad dressing. The olives to be added to relish spread must be properly brined and protected from the air, lest they become discolored. Mustard must be stored in a dry place, or it will decompose. Not only the purchasing of raw materials but also their storage under correct conditions of humidity and temperature is of great importance.

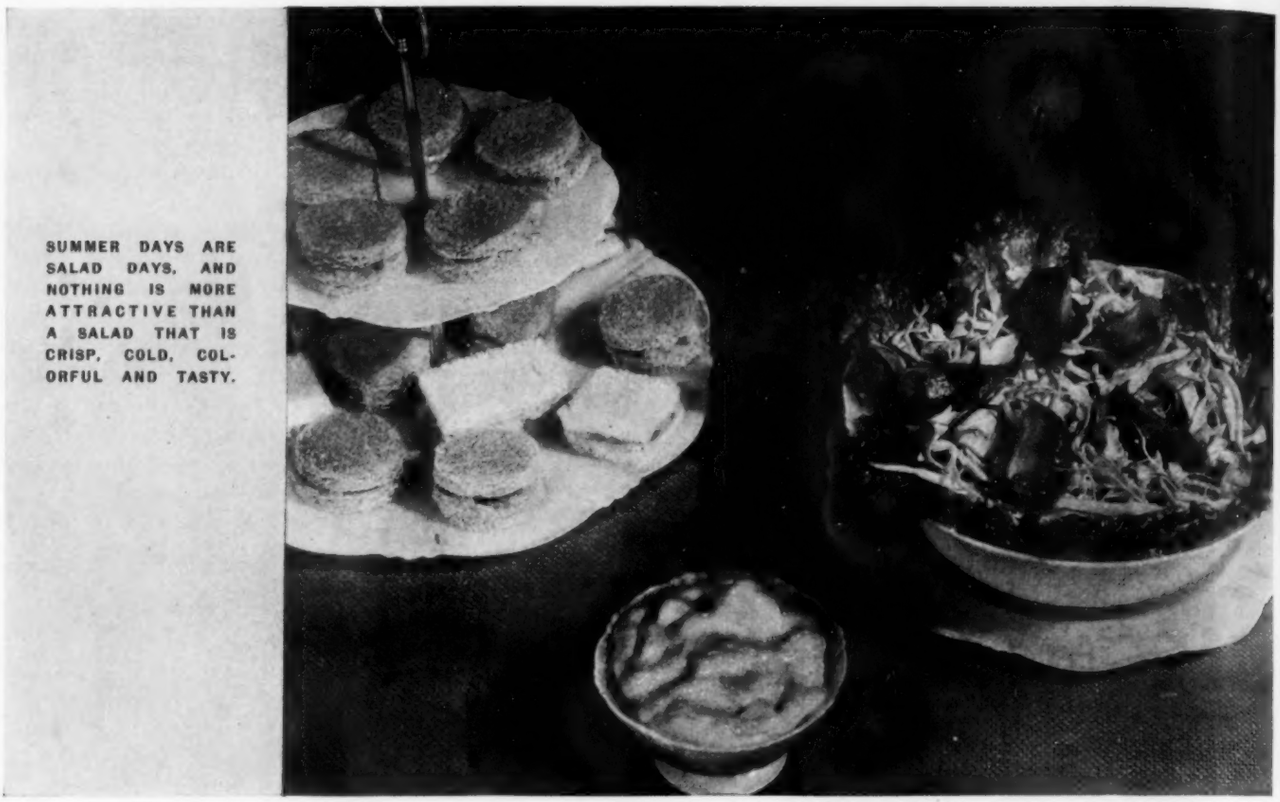
WHOLE eggs or yolks or frozen yolks are used in mayonnaise, but powdered egg yolks are not used. Eggs used for mayonnaise must be of a better grade than those frequently used by bakers. For baking purposes, a product with as high as from 3 to 5 million bacteria per gram may be used since the product is immediately heated and further bacterial growth is checked entirely. In the making of mayonnaise, however, the eggs are not heated and must necessarily be of the highest quality.

Vinegar of definite strength and purity is kept in closed containers away from contact with such metals as copper or iron. Pickle relish is kept covered so that vinegar flies will not accumulate. The acid ingredient of the mayonnaise may be in the form of distilled vinegar, malt vinegar, taragon vinegar, cider vinegar, lemon juice, citric acid, lactic acid, tartaric acid, or a combination of various vinegars and organic acids.

Condiments include salt, sugar, pepper, white pepper, mustard and various spices. A great deal of time is spent in the spicing and flavoring of the dressings in order that they will appeal to popular taste and will be adaptable to a wide variety of salads consisting of salad greens, vegetables, fruits or meats. While various additions may be made to the dressing in the home, it is essential to have the factory formula produce a mayonnaise seasoned for wide usage. Some of the dressings are extremely mild in flavor.

THE home economics director who showed me through the mayonnaise factory described her brand of mayonnaise as an "emulsion of eggs, salad oil and spices, using eggs, salad oil, distilled vinegar, water, cane sugar, salt and mustard, just staple everyday products." The frozen eggs are thawed out to 32 F. and then beaten at slow speed in a mechanical mixer to break up the lumps and make a smooth mixture. Water is added gradually, and the two ingredients are worked into a smooth paste. Then the seasonings, cane sugar, salt and English ground mustard are added and beaten, and the mixture is poured into a large mixing tank. The vinegar is worked in gradually. Salad oil, the same fine salad oil that is used by homemakers, is then added slowly and cautiously in order that a satisfactory emulsion may be prepared. The mayonnaise is run from the mixing tank into the homogenizer, where it is subjected to pressure before being put into the filling machine, which forces it into glass mayonnaise jars already washed and sterilized in hot water and live steam. As soon as they are filled and labeled, the jars are packed in cases and stored in the cooler until shipped.

The filling machine is washed after it has been used, and all other equipment is kept immaculate by scrubbing with stiff brushes, hot water and sterlizing solution. To insure against contamination from dust particles settling on the equipment between the preparation of the batches of mayonnaise, the machine is also washed each time before being used. Seamless bowls, mixers and machines with round corners are used. Extreme care is taken in the interests of public health and for the purpose of meriting the Seal of Acceptance of the Committee on Foods of the American Medical Association. The large manufacturer with fine equipment, seamless bowls and facilities for thorough sterilization of equipment will encounter little loss of materials and money from spoilage; the small



SUMMER DAYS ARE SALAD DAYS, AND NOTHING IS MORE ATTRACTIVE THAN A SALAD THAT IS CRISP, COLD, COLORFUL AND TASTY.

manufacturer has all kinds of difficulties, and the woman who makes jars of salad dressing for her corner grocer finds that her product spoils readily, entailing a loss of profits. A woman in my vicinity started making salad dressing on a small scale, gradually increasing her sales into neighboring towns. It was excellent dressing the day she made it, but it simply was not a safe product to buy at the grocery store.

I talked to the chemist at the large factory I visited, and I saw his laboratory equipment. The problem in mayonnaise making is to find a mayonnaise formula which will stand up well under rather adverse conditions in the grocery and the home. The modern manufacturer has certainly succeeded so well that there is scarcely a housewife in the country who does not depend on the commercial kitchen to make delicious salad dressing for her. More than 70 million dollars' worth of mayonnaise products are manufactured annually in the United States.

THERE is no getting away from the use of expensive ingredients in the making of a fine mayonnaise. The chemist who talked to me at the large factory I visited said that they were making a better mayonnaise, richer in egg and oil, than federal specifications required, and they found that housewives seemed to appreciate the higher quality. The federal definition follows:

> Mayonnaise (including mayonnaise, mayonnaise dressing, and mayonnaise salad dressing). Shall be made from either fresh or frozen egg yolks, or whole eggs, edible vegetable oil (refined and free from rancidity, foreign odor, and flavor), pure spices, vinegar and/or lemon juice, and salt, with or without the addition of sugar (sucrose), and shall not contain any stabilizing material. The finished product shall be clean, sound, and properly emulsified, of fine flavor, smooth and semi-solid, showing no evidence of separation or loss of consistency, and shall contain not less than 50 per cent of edible vegetable oil. The sum of the percentages of oil and of egg yolk shall be not less than 78 per cent.
>
> Varieties of salad dressings, other than mayonnaise, shall be prepared from ingredients recognized by best commercial practice as peculiar to the particular variety of salad dressing.

THE varieties of salad dressing referred to include tartar sauce, Roquefort cheese salad dressing, French dressing, thousand island dressing and the like.

In order to meet federal specifications, all salad dressings shall be "prepared in accordance with best commercial practice, under strict sanitary conditions, and from clean, sound, pure products. They shall be free from artificial coloring, preservatives, adulterants and impurities." Federal requirements must be met before any food is eligible to acceptance by the Committee on Foods of the American Medical Association.

A salad dressing which is not labeled "mayonnaise" does not have to conform to the definition of mayonnaise, although it must be clean and unadulterated. Such salad dressings contain a "starch base" or mixture of starch cooked with water, which acts as a stabilizer, changes the flavor of the mayonnaise slightly and reduces the cost. The better salad dressings on the market have a proportion of 60 per cent mayonnaise

and 40 per cent starch base. However, many good salad dressings contain equal portions of mayonnaise mixture and the starch base. Some dressings on the market use even less mayonnaise than these proportions.

The salad dressing which I saw in the making contains 1,930 calories to the pound, 17 of which come from proteins, 1,625 from fats and 287 from carbohydrates, as compared with the nutritive value of mayonnaise of the same brand, which afforded 2,826 calories to the pound, 53 calories of which come from protein, 2,669 from fat and 103 from carbohydrates. No vitamin claims are made in this brand of salad dressing and mayonnaise, the home economist told me. The sandwich spread is made from chopped pickles added to salad dressing, and thousand island dressing is made from chili sauce and sweet pickle relish added to salad dressing.

In order that vitamin claims may be made for an accepted product, either proof must be furnished to the Committee on Foods in the form of reports of experimental feeding of animals to demonstrate a definite vitamin content, or the Committee must be assured that the vitamin claims are warranted on the basis of authoritative information in scientific literature and that the method of manufacture does not impair the vitamin values of the ingredients used. Information of the literature is useless, however, if the method of manufacture is such that the vitamins may be affected by drying, heating or any steps of the processing.

In general, it may be said that egg yolk is one of the richest sources of vitamin D among ordinary natural foods; it also is an excellent source of vitamins A and G and a good source of vitamin B. Mayonnaise containing lemon juice is expected to contain an appreciable quantity of vitamin C. The egg yolk furnishes considerable protein and iron and some calcium and other minerals. An extremely small amount of carbohydrate is present in the form of sugar. In the salad dressings the carbohydrate present is chiefly dextrinized starch.

The oil, which forms the bulk of the salad dressing, is a concentrated food for the production of heat in the body and the providing of food energy for activities. One gram of fat furnishes 9 calories as compared to a gram of protein or carbohydrate, which furnishes only 4 calories. Thus it may be seen that fat is a food of greater concentration of food energy.

A considerable amount of fat accompanying a meal retards digestion and the discharge of food material from the stomach. Consequently, hunger is postponed longer than would be the case with a meal containing little fat. In practical meal planning, a larger proportion of fats and fried foods may be included in winter than in summer. The fats may be used more freely when it is desired to increase the number of calories in a diet as in the case of an underweight child. Mayonnaise is particularly palatable, and may be especially liked by the child. Furthermore, it is more readily acted on by digestive juices than is fat which is not emulsified.

French dressing is correct for the salad that accompanies the main course of a dinner. The commercial product does not separate as does the dressing made in the home by shaking together oil and vinegar in a fruit jar. The factory that I visited produces a French dressing, described as "an emulsion of cottonseed oil, distilled vinegar, cane sugar, water, spices, paprika, mustard, onion and salt." The ingredients are thoroughly mixed, homogenized and automatically poured into bottles. The dressing furnishes 114 calories to the ounce.

Mayonnaise and other salad dressing should be covered tightly and kept in the refrigerator. Factory care in the selection of good ingredients, the proper refrigeration and handling, cleanliness and tight packaging are of no avail if the product is not properly cared for in the home. Committee acceptance of a perishable product gives assurance that it was prepared from sound ingredients in a clean manner and was properly packaged to reach the consumer in good condition. Mayonnaise is not expected to keep without refrigeration as do canned fruit, milk and meat. The mayonnaise industry is one of the youngest of the food industries; it has grown rapidly with popular acceptance of the product. Because of the unfavorable conditions to which mayonnaise is many times subjected, the oil selected may be of higher quality than that used for many other food products. Moisture, light and heat contribute to the development of rancidity in oil. A tight cover on each jar is important.

Jars of mayonnaise were sent to the office of the Committee on Foods, when the products were being considered for acceptance, in order that the Committee might inspect the product and see that it was fresh, and that they might consider whether or not the label accurately described the contents of the jar. Copies of every piece of advertising were submitted, including folders and proof for advertising in current magazines and copies of any radio advertising. The Committee was furnished with accurate description of the methods of manufacture and the formulas of the mayonnaise, relish spread, sandwich spread, salad dressing and the like which had been submitted.

Mayonnaise holds its shape when dipped out of the jar with a spoon. Whipped cream may be folded into it for use on a fruit salad, or it may be thinned and flavored with one of the following foods: thick sour cream, sweet cream, catsup, chili sauce, spiced vinegar, lemon juice,

honey, prepared mustard or fruit juice such as pineapple juice. A delicious dressing may be made by adding mashed Roquefort or Camembert cheese. One may add chopped hard cooked egg and broken nut meats, chopped pickles or olives to a plain dressing. A thousand island dressing may be thinned with cream, vinegar or lemon juice. Children like lemon juice in salad dressing.

For Russian dressing add ½ cupful mayonnaise, 1 tablespoonful chili sauce, 2 tablespoonfuls mixed green and red peppers, chopped, and 1 tablespoonful Worcestershire sauce. Vary with a little lemon juice, chopped caviar or anchovy paste. A few drops of onion juice may be added.

Curried salad dressing is made by adding to 1 cupful of mayonnaise 1 teaspoonful curry powder, 1 teaspoonful grated onion, 2 tablespoonfuls lemon juice, 1 tablespoonful chopped green pepper and a dash of salt.

OTHER additions to plain mayonnaise, which may be used singly or combined with one another in amounts to suit the salad and personal taste are chopped anchovies, chopped parsley, diced cooked beets, hard cooked egg yolk put through a sieve, tabasco sauce, capers, chopped pickled onions, chopped mint or horseradish.

Fruit salad dressing is prepared by the addition of orange juice, lemon juice or pineapple juice after whipped cream has been folded into the dressing.

Dressings should be varied according to the ingredients of the salad with which they are to be mixed or served.

Jellied mayonnaise is attractive. It may be arranged in the center of a ring mold or in small molds surrounding a platter of green salad. It must be kept cold, in order to hold its shape. To prepare it, soften 1 teaspoonful plain gelatin in 2 tablespoonfuls cold water; dissolve over hot water, cool, but do not allow to stiffen, and beat the mixture into 1 cupful mayonnaise. Pour into very small molds and allow to chill; then dip molds in warm water and shake gently to loosen from the molds, and turn out on the salad plate. This mixture is excellent to spread over chilled fruit, meat or fish. For instance, drain peach halves from the can, dip each into the mayonnaise mixture, put together with a cottage cheese ball, arrange on a plate and allow to harden.

Green leaves and stems have little fuel value, but they supply roughage which assists in maintaining the normal activity of the digestive tract. The cellulose of vegetables, which includes salad greens and fruits, is a natural laxative. Green leaves in general are sources of the important vitamins A and B. Some fruits and vegetables, especially citrus fruits and tomatoes, are important sources of vitamin C when they are eaten raw. The minerals of vegetables and fruits aid in maintaining the proper acid-base balance of the blood. Vegetables and fruits, as commonly used in salads, and particularly the salad greens are valuable in the diet of every normal person.

Salads were considered accessories to the main meal in the past until their true value was pointed out by nutritionists. Salads may be fitted into the menu in various ways. The salad consisting chiefly of green lettuce suitably prepared with a salad dressing is best to serve at the side of the dinner plate. Mayonnaise may be thinned, as with catsup, or it may be used sparingly, for with fat meat or fried potatoes the oil of the mayonnaise would be superfluous. If the meal is light a larger serving of the mayonnaise may be allowed, depending on the caloric requirements of individuals.

Salad may form the main dish of a supper or a luncheon; in this case, the salad may include important protein foods, as chicken, meat, fish, nuts or beans, or the salad may be accompanied by some protein food, as a serving of cottage cheese or a cheese sandwich. If one salad is to supply the main part of the meal, it may contain a starchy food, such as macaroni, potatoes or rice, or the salad may be accompanied by sandwiches.

An attractive whole meal may be arranged on a luncheon plate covered with lettuce with mounds of different vegetables and a small paper cupful of mayonnaise in the center. Such a plate may include diced carrots, fresh peas, asparagus tips, string beans and beets. A similar luncheon plate for hot weather may include sliced oranges, dates and English walnuts, fresh peaches and pineapple with cottage cheese and salad dressing.

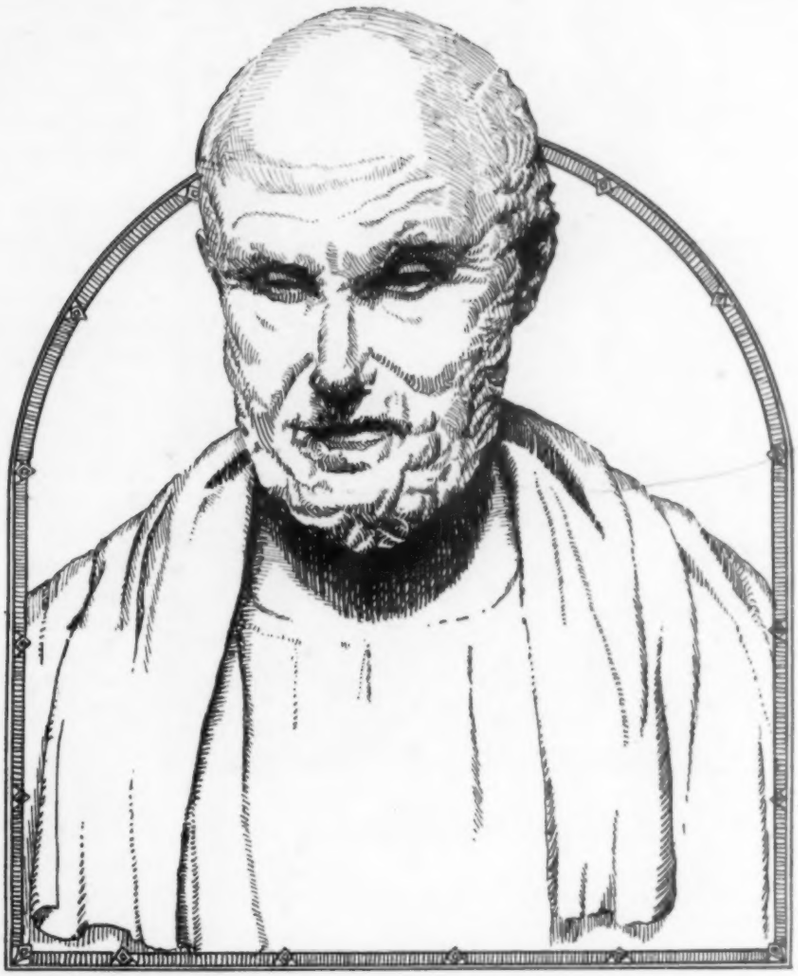
WHEN salad is served as a separate course following the main course at a dinner, vegetables are appropriate, and it may be accompanied by crisp crackers or wafers. At a simple home dinner a fruit salad may serve as both salad and dessert course. The appetizer salad, served as the first course, should be tart and tasty. It may include the same types of foods as are often used in canapes or hors d'oeuvres. Sardines and salty fish, tomatoes or citrus fruits are appropriate. Never serve a sweet salad or sweet fruit cocktail as a beginning course. Salad is suitable to serve for late evening refreshments. Tart foods and salty foods are at present more popular than sweet foods.

Study your salads seriously, and try the various dressings which have merited acceptance of the Committee on Foods of the American Medical Association.

[NOTE.—In the August issue, Mrs. McCray will discuss iodized salt. Lists of the accepted foods discussed each month will be sent on receipt of 6 cents in stamps.]

An Article by HAROLD B. WOOD on

That PLAGUY APPENDIX



ALTHOUGH THE NAME "APPENDICITIS" IS MODERN, THE DISEASE ITSELF IS NOT NEW. HIPPOCRATES, FOUNDER OF MEDICINE, RECOGNIZED THE SERIOUSNESS OF PROLONGED ACUTE PAINS IN THE APPENDICEAL REGION. HIS DEATH WAS ATTRIBUTED BY A LATER WRITER TO APPENDICITIS.

APPENDICITIS is a prevalent disease, but nobody has known the exact frequency of its occurrence. It is not one of the diseases which are reported. Until recently, no attempts have been made to determine how common the disease has been. My recent survey showed that in Philadelphia, forty-six hospitals admitted 8,023 patients with appendicitis during 1931; in other words, at least 1 person out of every 245 in the entire city had appendicitis that year. Approximately 10 per cent of all the operations performed in Philadelphia during that year were done on the appendix. In Pittsburgh 11 per cent of all surgical cases were admitted because of this disease. Eighty hospitals in Pennsylvania outside these two cities reported that 16 per cent of their surgical cases were appendicitis. Approximately 8 per cent of all persons in hospitals are there because of appendicitis. In a nation-wide survey of 39,185 persons in 9,000 families, S. D. Collins of the U. S. Public Health Service showed that nearly 1 per cent had appendicitis during 1931. So the disease is quite prevalent and is increasing slowly each year.

It is not a new disease. Peter Lowe in 1612 wrote that Hippocrates, the founder of medicine, died of appendicitis in 370 B. C. When Hippocrates wrote, "Suppuration upon a protracted pain of the parts about the bowels is bad," he showed his appreciation of the seriousness of prolonged acute pains in the appendiceal region. The present name of the disease is modern. In his dictionary, which was first published in 1755, Samuel Johnson does not mention the disease or the name of the organ; nor does Walker in his dictionary published in 1829, or Worcester in 1846. For centuries abdominal diseases were called the iliac or colic passion, until Celsus, in the first century, separated them, stating that the colic passion was on the right side of the body below the navel and was apt to recur.

IN THE second century, Galen dissected monkeys; but since the monkey does not have an appendix, this organ was not recorded by him. The first known reference to the appendix was made in 1522 by Berengarius Carpus, professor of surgery in Pavia and Bologna, who is believed

Vesalius, 1555, nr. 295.

IN 1543, ANDREAS VESALIUS, WHO HAS BEEN CALLED THE GREATEST ANATOMIST THAT THE WORLD HAS EVER SEEN, PUBLISHED AN ILLUSTRATION SHOWING THE APPENDIX

to have been the first person to practice human dissection. His book on anatomy describes the appendix and names it the "additamentum." Vesalius in 1543 published an illustration showing the appendix. In 1567 it was called the appendicula. Later it became known as the vermiform appendix, with a final shortening to its present name.

The pronounciation of the word appendicitis is disputable. It is partially a localism. The question is moot, whether the "i" of the final syllable should be given the long "i" sound or that of an "e." Medical dictionaries prefer the "i," and some English dictionaries give only that; but the latest dictionary states that the letter should be pronounced as the "e" in seat. Some of the authoritative dictionaries do not mention the word. Finally, the long "i's," as in ice, seem to have the decision, although it is not entirely incorrect to say "etis."

A SOCIAL standing was given appendicitis when King Edward VII of England had an attack. The surgeons, however, gave it a setback by calling his disease typhlitis. The royal cognomen rarely occurs now in literature. Strictly speaking, typhlitis is an infection of the tissues adjoining the base of the appendix. However, all such cases are regarded and classed simply as appendicitis, because the infection or irritation doubtless begins in the terminal appendage.

The appendix is grouped among the vestigal relics of our ancestors, although the present monkeys get along without one. Its only use in the human race is to bother the owner and vex the surgeon.

The lower animal has use for his appendix. The muskrat, for instance, eats more or less for twelve hours, then sleeps and digests during the other twelve. Its appendix is about 18 inches long, or longer than the entire body. It is used as a storage chamber for freshly eaten grass, which is later regurgitated therefrom to be digested. Various fish and birds have useful appendixes of various numbers and lengths.

IN ADULT persons the appendix varies from ½ inch to more than 9 inches in length, being usually about 2 or 3 inches long. Its normal diameter is about midway between that of a match and a pencil. Its surface location is known as McBurney's point, which is 1 inch toward the feet from the middle of a line from the navel to the prominent point of the right hip bone. The base of the appendix is directly underneath this point. A few persons have the organ on the left side, but that condition is rare.

The death rate of appendicitis is decreasing as the result of better operative technic and earlier calls to the hospitals. From about 3 to 5 per cent of all cases terminate fatally. The ruptured gangrenous appendix is the most dangerous, about one tenth of the patients being beyond surgical skill. Nobody knows exactly how many persons die of appendicitis, because the published records include not only deaths from appendicitis and its complications but also numerous deaths from other diseases. Likewise, it is impossible to give a correct comparison of recent death rates and those of ten or twenty years ago. Different systems of classification prevent a correct interpretation.

Not every pain in the abdomen, not even every severely acute pain over McBurney's point, is appendicitis. Pains simulating appendicitis may come from many causes, from constipation, from dryness or massing of the intestinal contents, from disorders of the pelvic organs, from gallbladder conditions, rheumatism, strains and contusions, and even from such apparently remote conditions as bronchitis, curvature of the spine, gastric or duodenal ulcers, stones of the kidney and floating kidney. With so many conditions giving pain over the region of the appendix it is no wonder that people are mistaken in their own diagnoses and hesitate to have a complete and early medical examination made. Repeated attacks of chronic appendi-

citis must be brought to the attention of the physician, or that plaguy appendix may result as fatally as the plague.

Many persons think the best thing to do for an attack of appendicitis, or even for a pain in the abdomen, is to take a cathartic to unload the intestinal tract. Doctors know this is dangerous. Cathartics increase peristalsis, which is the churning movements of the intestines. If the appendix is inflamed, the movement may increase its condition. If the appendix is gangrenous or is distended by pus or an abscess, the churning of the intestines may cause it to rupture. Pressure, massage or rubbing over the appendix may also rupture it. Perforation of the appendix allows the infection to spread over the peritoneum, which is the membrane covering the intestines. Death then is apt to follow in spite of anything a surgeon can do.

Cathartics have, therefore, a damaging effect in a case of acute appendicitis. By a survey of hospital records, the Medical Society of Philadelphia showed that in cases in which a laxative had been given, 7 per cent of the patients died, but where no laxative had been given only 2 per cent died. In other words, when a laxative was used 1 patient out of 14 died, but when there had been no laxative 1 out of 46 died. When only one laxative, or one dose of a purgative was given, 1 in 17 patients died; but when multiple laxatives or doses were given 1 in 5 died. These figures clearly illustrate the dangers of giving a cathartic to any one with acute appendicitis.

THE dangers from the use of laxatives, during an attack of appendicitis, were pointed out by Dr. Fitz in 1886, yet the practice has been continued, both by the people who use home remedies for abdominal pains and by some physicians.

What should be done when a severe pain develops in the lower right side of the abdomen? This is a question for which many families want an immediate answer. The patient should lie down, preferably on the back. No laxative or cathartic should be given by mouth. If there is good reason to believe that the intestinal tract must be emptied, a small enema consisting of a pint of warm water may be given slowly. The enema should not be a soapy one, but it is best to add a teaspoonful of salt to the pint. An ice bag may be applied to the abdomen to relieve the pain, but there should not be much or any pressure made over the appendiceal region. Narcotics must not be given to ease the pain. If the pain continues for more than an hour or two, a physician should be called. No food should be given until the pain abates or until a definite diagnosis of the absence of appendicitis is made by the physician.

OPERATION is the treatment for appendicitis. If it is determined that a severe attack of acute appendicitis is present, the quicker the operation is done the safer the patient will be. Delay is most dangerous with a suppurating, abscessed or gangrenous appendix. It is much safer to go a short distance to a small hospital than to travel a long distance to reach a large hospital or a surgeon of great renown. The greater the distance traveled the greater will be the risk.

Delay of operation in acute fulminating appendicitis promotes fatalities. In the Philadelphia survey, it was shown that when patients with acute cases were admitted within twenty-four hours of the primary attack, only about 2 per cent died; of those admitted the next day, 4 per cent died; those coming within seventy-two hours had a fatality of 8 per cent, but over one tenth of those operated on after the third day succumbed from this delay.

No cathartics should be given in acute appendicitis. The best treatment is early examination, careful diagnosis and early operation in a hospital in the vicinity.

THE FIRST KNOWN REFERENCE TO THE APPENDIX WAS MADE IN 1522 BY BERENGARIUS CARPUS, PROFESSOR OF SURGERY IN PAVIA AND BOLOGNA, WHO IS BELIEVED TO HAVE BEEN THE FIRST PERSON TO PRACTICE HUMAN DISSECTION.

The Case of the Gloomy Babies

Chapter II of THE DOCTOR'S SCOTLAND YARD

By Robert A. Kilduffe

ONE SUMMER MORNING, IN JUNE TO BE EXACT, THE CHILD WAS BROUGHT INTO THE HOSPITAL UNCONSCIOUS. THE HISTORY OF THE CASE REVEALED ONLY THAT THE STUPOR HAD BEEN PRECEDED BY ATTACKS OF CONVULSIONS.

THE BETTER part of a week had gone by before Carey, Trebor and I again spent an evening together. During the interval I had thought more than once of Trebor's definition of disease as a criminal, for the conception was a new one to me. I wondered how well he would be able to use it in the description of an actual case and also whether he would be able to avoid too much technicality. My curiosity was aroused by the title of the tale we were to hear and therefore I was glad when Carey phoned that he would drop in on us this particular evening.

Dr. Trebor and I had already finished our first pipes of the evening when Inspector Carey arrived.

"I'm sorry to be a little late," he said as he came into the room, "but I've been pretty busy. In fact, I may be called away before the night is out, so let's get going. What is this bedtime story about?"

"Now, wait a minute," I said from my post at a little table where everything necessary for "the makings" was set out. "Trebor's sort of 'on the spot' tonight. He is to give us, not one of those dry-as-dust scientific reports, but a story with disease as the criminal and the clinical pathologist as the detective. Agreed?"

"Agreed," assented Trebor. "That is exactly how I shall try to tell it."

"Well, let's get going," said Carey who was comfortably ensconced in his favorite corner with his favorite pipe glowing and his favorite drink handy at his elbow. "What's it all about?"

"Well," answered Trebor, "just to stimulate your curiosity I think I did say I'd call this adventure 'The Case of the Gloomy Babies.'"

"Most of the ones I ever saw were gloomy!" I said, speaking from a vast experience of visits to three married pals of mine.

"You must have been around just before feeding time," grinned Trebor. "About that time I believe that all babies are convinced that the world's food supply has been entirely exhausted."

"I've had that feeling, myself," said Carey, "just before mealtime, strangely enough. But let's get to the story."

"Here goes, then," Trebor began. "This particular adventure in the field of clinical pathology does not happen to be one of my own. But it came to the knowledge of a friend of mine in the city of Baltimore in the year 1933 A. C.—'After the Crash.' While the first incident occurred in the early summer of that year, the events leading up to it had begun way back in 1931.

"One summer morning, in June to be exact, a little colored girl, 7 years old, was brought into the hospital unconscious. The history of the case revealed only that the stupor had been preceded by attacks of convulsions. No information could be obtained directly from the patient, of course, and not much more from the members of the family, who were not particularly intelligent. They claimed the child was all right until the convulsions began shortly before her admission to the hospital."

"I should think a situation like that would make anybody gloomy," I said. "It sort of put the doctors in a rather tough spot, didn't it?"

"Oh, we haven't really got into this thing yet," replied Trebor, "for within a day or two a patient with a similar case was brought to the hospital. The story was the same, convulsions and periods of unconsciousness, and that was about all that could be found out.

"Now, to anticipate events a little, as it eventually turned out, more than forty children, ranging from infants to those 6 or 7 years of age, were found to be suffering from a peculiar depression. All were generally dull and apathetic; many had occasional attacks of pain and were fretful, and some had severe convulsions. Of course, this condition wasn't found out right away, and it only came to light after an investigation of the first two cases. Our observations brought unusual results.

"When you find a child in convulsions which are followed by a stupor, naturally you think some grave disturbance of the nervous system is the cause. You think of meningitis, that is, inflammation of the membranes covering the brain, of infantile paralysis and other things. First of all you try to find out whether there was any opportunity for the child to get such diseases. You look the ground over generally, as Carey does when he first enters a case. Just as the police begin by questioning the bystanders and the neighbors, so we doctors begin by questioning the bystanders, meaning, of course, the family.

"The first fact of apparent significance in the case was that the little girl's father had died the preceding year of tuberculosis, or, as some people still speak of it, consumption. Further questioning aroused the suspicion that the mother, too, might be tuberculous. Therefore, the first working theory was that the child might be suffering from this disease."

"But I thought consumption was a lung disease," said Carey.

"So it is," replied Trebor. "But tuberculosis can attack any part or organ of the body. The most common form is pulmonary tuberculosis, that is, tuberculosis of the lungs; but there is also tuberculosis of the bones, the intestine, the kidneys, the brain covering and so on. The case in this instance was first thought to be tuberculosis of the brain covering, or tuberculous meningitis. So, after the witnesses had been questioned, the next step was to go over the scene of the crime; in other words, to examine the patient. When this had been done there was still more information for the record."

"You know," I said, "the way you tell it, it does sound like Carey's squad in action. Doesn't it, Inspector?"

"If he'll just bring on the photographer and the fingerprint men I'll think I'm working," Carey answered.

"They're coming," said Trebor, smiling. "The photographs, that is, the x-rays, showed the presence of tuberculosis of the deep lymph glands inside the chest, though not in the lungs. There were plenty of fingerprints of the disease, including the family history and a positive skin test known as a 'tuberculin test.' I won't take time to go into its somewhat complicated mechanism. The child was undoubtedly tuberculous. The question remained, had the disease traveled up inside the skull?"

"Would not the x-rays show that?" I asked.

"No," Trebor answered, "Because the x-rays can show only shadows in accordance with the density of the tissues through which they pass. The membranes covering the brain, which, by the way, are called the meninges, are too thin to produce any shadow."

"But, if they are inside the skull how can you examine them?" inquired Casey who seemed to be unusually interested.

"We can't directly," answered Trebor. "There's an indirect method, however. You see, the brain is bathed in a watery fluid, the cerebrospinal fluid, which fills the spinal canal and bathes the spinal cord. It is easy to obtain some of this fluid by passing a fine, slender needle between the bones of the spinal column and into the spinal canal. Because this is done in the lower part of the back, the lumbar region, we call this procedure a lumbar puncture or, sometimes, a spinal tap.

"If the meninges, the brain coverings, are inflamed for any reason, the spinal fluid, instead of being clear and under practically no pressure so that it runs through the needle in drops, will be more or less cloudy, under very definite pressure, and will show alterations in the chemical composition. Instead of only an occasional cell and a little albumin and sugar in solution, there

THE WINTER HAD BEEN FAIRLY SEVERE, AND THEY HAD COLLECTED STORAGE BATTERY CASES FROM THE DUMP AND USED THEM FOR FUEL.

will be many cells in the fluid, varying in type according to the nature of the inflammatory process. If the condition is the result of the action of bacteria, or germs, we can find them in the fluid by means of the microscope or by actually growing them from the fluid in the laboratory."

"That's quite a tricky stunt," said Carey.

"It must be done with mirrors," I added.

"The clinical laboratory knows a lot of stunts," replied Trebor. "You fellows haven't heard anything yet. Well, to go on with the story. The spinal fluid in this case, contrary to expectations, failed to show any evidence of tuberculous infection of the meninges or, indeed, any sort of meningitis or infectious condition. It did present evidence of meningeal irritation, but the patient's condition had already shown that. So the nature of the crime was still a puzzle.

"Now, because the blood plays such an important part in both the maintenance of health and the battle of the body against disease, every hospital patient has what every really sick patient anywhere should have, an examination of the blood. Consequently, just as part of the routine, a blood count was made on this child."

"What's that?" asked Carey.

"An enumeration of the red and white blood cells, a percentage calculation of the different kinds of white blood cells and a determination of the amount of hemoglobin, the coloring matter present in the blood."

"How much blood does it take to do all that?" I queried.

"Just a few drops from a finger tip," replied Trebor. "Well, the really significant clue that, in the end, 'broke the case' was found in the blood."

"You mean," I asked, "that the child had a blood disease?"

"No, but certain changes were produced in the blood as a result of the disease. This is true of many diseases which do not directly concern the blood. We discovered these changes during the blood count because part of that procedure is to make thin smears of the blood on glass slides and then, after the smears have been stained with various dyes, to examine the cells under the microscope. When this was done the red cells, instead of being stained an even pink throughout, were seen to be studded with little blue dots or granules. This is called 'stippling' in the laboratory. It is a sign that the red blood cells that show this change are very young cells. We find them under a variety of conditions but, strangely enough, they are most numerous and the granules are coarsest in cases of lead poisoning. This laboratory observation changed the picture entirely. The question arose whether this child could have lead poisoning."

"Does that cause convulsions?" asked Carey.

"It does in severe cases," answered Trebor. "When a large amount of lead has been absorbed in the body, irritation of the central nervous system is the result."

"Can you find the lead in the body?" I inquired.

"Oh, yes," said Trebor. "That was, of course, the next step to be taken, to see whether there was any lead in the body of the child. When lead is absorbed, it is deposited in the long bones and also in the other tissues. Consequently, it has to be carried there by the blood, which is the main transport system. Therefore the blood, the spinal fluid and the urine were all tested for lead in the clinical laboratory. Lead was found. In addition to these laboratory observations, the patient was examined for the lead line, which is a bluish line found on the gums near the margins of the teeth. Following this discovery, the diagnosis was made.

The child was suffering from an acute lead poisoning."

"Well," said I, "that must have been a surprise."

"Oh, the big surprise is yet to come," laughed Trebor. "Remember there was another child in much the same condition. When that one was examined in the light of what had happened, lo and behold, he too had lead poisoning! And don't forget the forty children suffering from 'depression' whom I mentioned at the start of this story. However, this disorder really did not come to light until later."

"Did they have lead poisoning too?" the Inspector asked.

"They certainly did," replied Trebor. "But let's go back to the original cases. So far, the nature of the crime had been discovered and the doctors knew what was the matter. But the next step was to find the criminal. In other words, what had caused this poisoning? What do you fellows do, Carey, when you have reached that stage?"

"Well," he replied, "that's where the leg work starts in. We tell them what we are looking for, and the boys start digging around, looking in the likely places and all that sort of thing."

"Exactly," said Trebor. "And there was some leg work—'spade work,' I heard you call it—to be done here."

"Where would you begin to look?" I asked. "Where are the likely places for a kid to get lead poisoning? It would have to be something pretty unusual, wouldn't it?"

"Not so unusual as you think," Trebor answered. "Lead poisoning in children, and it is by no means a rare occurrence, generally means that the lead was absorbed through the digestive tract. In other words, they ate it."

"How on earth can they eat lead?" I exclaimed.

"Oh, they don't have to go out of their way to do that," smiled Trebor. "They gnaw it off their cribs or their toys or their little tin soldiers and all that sort of thing. These are all painted, you know, and paint and enamel contain lead. You fellows have heard of 'painter's colic,' haven't you?"

"Do they eat paint too?" asked Carey.

"Sometimes," answered Trebor. "If they forget to wash their hands or are careless about it, they may eat quite a bit of paint with their lunch. More often they absorb it through their skin."

"So this kid was either painting houses or gnawing its crib," I said.

"Neither one nor the other," replied Trebor. "That's what makes this case rather an odd one. You see, in searching for the cause it was noticed that both of these children came from the same part of the city, a poor neighborhood. Investigators went down to the respective homes to see what could be found out there. The families in this section were rather up against it. Work was scarce, and the shacks they lived in were rather dilapidated.

"The winter had been fairly severe and, in the course of the investigation of the family habits, it was learned that, since they were not able to buy coal or other fuel for heating and cooking purposes, they were obliged to burn whatever they could find. And they burned a fuel that was new to me, battery cases."

"Battery cases?" exclaimed Carey and I together.

"Battery cases," grinned Trebor. "You know, the things you exhaust trying to start your car on cold mornings, storage battery cases. When batteries wear out and are discarded the lead plates are salvaged, and the cases, which are made of some sort of composition, are thrown away on dumps. Plenty of them, too, for one junk shop near where these people lived discarded 500 and another threw away more than 2,000 old cases each week. The whole point of the matter is that these people had collected them from the dumps and used them for fuel, for they burn pretty well."

"And they contained lead?" said I.

"They did," answered Trebor. "And as they burned, the lead was given off in thick, heavy smoke and the children breathed it in."

"I never knew you could inhale lead," said Carey.

"Yes, when it is in finely divided particles, as in this smoke," said Trebor, "lead can enter the body in many ways, and inhalation is one of them. Naturally, every one who had been inhaling this smoke, including the parents of these two children and the forty others suffering from the strange 'depression disease,' showed definite symptoms of lead poisoning as a result of the laboratory examinations to which they were all subjected."

"What can you do for that?" I asked.

"The treatment is quite logical," answered Trebor. "The symptoms of lead poisoning arise from the fact that the lead, being present in the blood and body fluids, is brought into contact with the various kinds of body cells. In addition to this circulating lead there is also a lead deposit in the bones. An attempt to eliminate all the lead quickly is liable to turn a mild, chronic case of poisoning into a severe, acute one, because the blood becomes loaded with a large amount of lead at once. So the first thing to do is to try and immobilize the lead. This can be done by feeding the patient large amounts of calcium and other substances. Milk in large amounts is useful because of its calcium content. This deposits the lead in the bones. The next step is to liberate the lead from the bone deposits in small amounts by decreasing the calcium intake and by using certain drugs, such as phosphoric acid or potassium iodide. In this way the lead escapes in small amounts

which are not injurious and will not produce the symptoms of lead poisoning."

"Well," I said, "that was rather an interesting series of events, a story that surely started out as a mystery, and no mistake!"

"The detective work on it wasn't so bad either," said Carey. "Had such a thing ever happened before?"

"I'm not sure," replied Trebor; "but the same thing has happened since in Long Island, Philadelphia and New York, and it may happen again unless proper precautions are taken. Just another job for the board of health."

"Still," I said, "just to keep you from being too pleased with yourself, while the story was interesting, and, in the beginning, a sort of a mystery, I still don't see just where you got your title for it. Where does that gloomy baby stuff come in?"

"There are many good reasons for that title," said Trebor, laughing at me. "In the first place, if I had been sure that you would know what the word meant, I would have called them the saturnine babies. Lead, you see, used to be called saturn by the old alchemists, and lead poisoning was consequently called saturnism. So, as saturnine means gloomy, you get gloomy babies. Simple, isn't it?"

"Oh, yeah!" I retorted. "But were they gloomy?"

"Indeed, they were," said he, "for one of the symptoms of chronic lead poisoning is that the patient is apt to be dull and apathetic."

"The doctor's got you," laughed Carey. "Anyhow, they might have been gloomy in the beginning, but I'll bet they were happy enough when they got rid of the lead. And I'll bet the doctors were happy too when they got to the end of that puzzle."

"Oh, it's all in the day's work," said Trebor.

"Know any more like that?" I asked.

"Let's see. . . . How about 'The Mystery of the Blue Blooded Lady' for the next time?"

"We'll all be blue," said Carey to me, "if you forget to lay in the supplies, as you did last week."

"If I know you're coming that's the first thing I think of," said I, as we parted, to meet soon again for another laboratory adventure.

(To be continued)

[NOTE.—The case on which this tale is based was reported by Dr. Huntington Williams and his associates in *The Journal of the American Medical Association,* May 13, 1933, page 1485. The report is entitled "Lead Poisoning from the Burning of Battery Casings."]

Whether the weather is cold,
Or whether the weather is hot,
We must weather the weather,
Whatever the weather,
Whether we like it or not.
—Author Unknown.

So Keep Your Interests Up— And Keep Your Temperature Down

The August HYGEIA Brings Relief to the Heat Haunted

"Foods in Hot Weather" is the title of an enlightening article by *Mary C. Brown,* who recognizes the importance of seeking foods that are safe, palatable and refreshing and that will intrigue the appetite when the mercury soars. That important factor, the refrigerator, is discussed; its inner workings are explained; pertinent points on its economical use are listed, and tempting recipes for appropriate summer foods are given.

Dr. George A. Skinner's article, "When Children and Animals Mix," is written in the hope that it will make the delightful companionship between children and household pets safer for the children without materially reducing their pleasures in their animal friends.

The manifestations of nervousness in childhood, adolescence and adulthood are considered by *Dr. Joshua H. Leiner* in his article, "The Causes and Prevention of Nervousness."

Many are the interesting sidelights given by *Raymond B. Cowles* in "Primitive Medicine," an article in which he deals with the customs of the Zulus and tells of their superstitions.

In an article entitled "Trained Dogs Guide the Blind," *Rose Henderson* tells the story of The Seeing Eye, a school in which dogs are trained to serve as guides for blind masters who, in turn, are taught how to use the dogs, so that these faithful animals become, in truth, "eyes to the blind."

In "Heart Disease After Middle Age," *Dr. Laurence E. Hines* faces the question, What can we do to increase our life expectancy? The advice which he gives is helpful and frank.

That bugbear of summer sufferers, hay fever, is considered among several other abnormal reactions in *Dr. Lee D. Cady's* article entitled "The Curious Thing Called Allergy."

Among the many other informative articles are "Some Popular Fallacies About Anemia" by *Dr. Raphael Isaacs* and *Agnes W. Isaacs;* "Diet and the Teeth" by *David W. McLean, D.D.S.;* "Abscessed Ears and Mastoiditis" by *Dr. J. Robert Burke;* "Injuries and First Aid," another chapter in *Dr. Hyman Cohen's* "Eye Book"; "The Mystery of the Blue-Blooded Lady," an episode in *Dr. Robert A. Kilduffe's* serial "The Doctor's Scotland Yard," and the concluding article of "Why the Baby Has Eczema," by *Dr. Dennis Kelly* and *Myrtle Meyer Eldred* in which the specific external causes of infantile eczema are discussed.

"SALTS" and "CRYSTALS" Quackery

By ARTHUR J. CRAMP

FEW laxatives, in fact, few medicines of any kind are more generally used and abused by the public than are the saline cathartics. For the nonmedically trained person is quite unaware of the fact that salines should be classed among the habit-forming drugs and that they are responsible for a large proportion of cases of cathartic habit. The salines do not produce evacuation by stimulating peristalsis, the wavelike movements of the intestines, but by distending the intestines with fluid. They are especially objectionable in those cases of chronic constipation in which the intestines lack muscular "tone," for they not only fail to overcome the lack of tone, but they tend to increase it by reducing the need for peristaltic activity because, obviously, liquid contents are more easily propelled than are solid.

During the past few years there has been a veritable flood of "patent medicines" of the saline-cathartic type, many of them put out under the name of crystals. The crystals quackery seems to be largely the result of imitativeness on the part of nostrum exploiters. A "patent medicine" called Crazy Crystals, which was put on the market a few years ago, was ballyhooed extensively over the radio, with the result that the self dosing public was made, as the advertising man would put it, "crystals conscious." Imitations followed.

The continued, and especially the daily, use of salts is pernicious to a degree. Such dosing may be justified in certain serious conditions in which the intestines are partially blocked, by cancer, for instance, and in patients who for some reason cannot be relieved surgically. An authority on the subject has well said of cathartic salts, "That they are occasional accessory causes of death from ileus [due to intestinal obstruction] and appendical and other forms of peritonitis is only too well known to the surgeon."

It is not to be understood that saline cathartics have no place in medicine, or that they should never be taken. They may, in fact, be valuable drugs in the treatment of certain conditions. But their indiscriminate use is as wholly unjustified as is the belief that they are quite harmless.

One of the chief claims, and in some instances the only important claim, made for some of the numerous advertised "crystals" and salines is that they are cures for obesity. As I have pointed out in a previous article, "Some Obesity 'Cures' and 'Treatments,'" which appeared in the January HYGEIA, the way in which purgatives act as alleged cures for obesity is to hurry the food through the intestines before a large part of it can be properly digested. In the case of the salines, some weight is also temporarily removed by drawing water from the tissues into the bowels.

In the paragraphs that follow, there are described briefly some of the salines that now have, or have recently had, a vogue:

Crazy Crystals.—This product was said to be the crystals formed by evaporating "Crazy Mineral Water." The exploiters of the water have published in the past what purported to be the ingredients of their product. While the ingredients have varied in detail at different times, they all reveal that the chief mineral ingredient is sodium sulphate (Glauber's salt, or the "horse salts" of the veterinarian). In the advertising ballyhoo over the radio, attempts were made to lead the public to believe that Crazy Crystals was not a drug. As a matter of fact, it was nothing else but a drug.

German Fruit Salts.—This nostrum was advertised as a panacea for practically all the ills to which the human body is heir. Although it was called Fruit Salts, it was found that 60 per cent of it consisted of a mixture of Glauber's salt and sodium phosphate, substances that by no stretch of imagination could be derived from fruits. It did have, in addition, some sodium citrate and sodium tartrate. These salts were sold through the mails by one H. Landgraf of Philadelphia.

New Way to Lose Pound of Fat a Day Illustrated
COSTS ONLY 2¢ A DAY
ME BEING SO FAT MAKES ME A WALL-FLOWER
WHY DON'T YOU GET THIN THEM - EVER HEAR OF JAD SALTS?
I LIKE TO EAT TOO MUCH
WELL THIS JAD WAY YOU EAT MORE THAN EVER, JANE
ANYHOW, THE NEW COMBINED JAD SALTS COST ONLY 2¢ A DAY! I'LL TRY THEM! AND THE RULES ABOUT EATING ARE SO SIMPLE!
A FEW WEEKS LATER
JANE, YOU ARE WONDERFUL! WHAT HAVE YOU DONE?
-THAT'S MY SECRET - YOU SPELL IT -JAD
Grow Thin on 3 Full Meals a Day!
All You Do
Month's Supply Now Condensed Jad Salts Only 60¢!

JAD SALTS WAS FIRST ADVERTISED AS A "KIDNEY CURE." ABOUT 1930, HOWEVER, THERE WAS APPARENTLY A SLUMP IN THE KIDNEY CURE GAME, AND JAD SALTS THEN BEGAN TO APPEAR ON THE MARKET ADVERTISED AS AN "OBESITY CURE."

NOW LOSE FAT WITHOUT DRUGS
IF YOU WANT TO REGAIN PHYSICAL LOVELINESS AND HEALTHFUL VIGOR
NO STARVING — NO EXERCISE!
Fat Just Seems to Melt Away
Make This "4 Weeks' Test"
GET SLEEPY SALTS TODAY!
EAT BIG MEALS YET SEE FAT MELT AWAY
Amazing Health Benefits
Results Guaranteed or Money Back
SLEEPY SALTS

THE CHIEF CLAIM MADE FOR SLEEPY SALTS WAS THAT IT WOULD MAKE "FAT GO FAST." FEDERAL CHARGES OF MISBRANDING BECAUSE OF FRAUDULENT CLAIMS WERE SUSTAINED BY THE COURT.

July 30, 1934, the Postmaster General declared the business a fraud and debarred Landgraf from the use of the United States mails.

Geuda Springs Crystals.—This product came from the Geuda Crystal Company of Geuda Springs, Kan., and varied somewhat in composition from most of the so-called crystals on the market. Instead of being mainly Glauber's salt (sodium sulphate), it had but a small proportion of this substance in it, with equally small proportions of epsom salt and sulphate of lime. The main ingredient was common table salt, of which it contained more than 92 per cent. The advertising that went with the trade package gave the impression that Geuda Springs Crystals contained sodium bromide, sodium iodide and sodium biborate; as a matter of fact, no iodides, bromides or borates were present. This in itself constituted misbranding under the National Food and Drugs Act, but the product was still further misbranded because the claims that it was a remedy for stomach trouble, liver and kidney disorders, rheumatism, sinus trouble, eczema and various other conditions were declared fraudulent. The Geuda Springs Company admitted in August 1933 that the charges of the government were true (Notice of Judgment, 21568), and the court entered judgment of condemnation.

Jad Salts.—Products known as Jad Salts have been on the market for many years. At first Jad Salts was advertised as a "kidney cure" and, as such, was declared misbranded in 1923 under the National Food and Drugs Act because of the fraudulent claims made for it. Jad Salts, the "kidney cure," contained tartaric acid, citric acid, lithium carbonate, sodium phosphate, potassium bicarbonate, table salt, baking soda and hexamethylenamine. About 1930 there was apparently a slump in the kidney cure game, and Jad Salts began to be advertised as an "obesity cure." It appears to have had the same ingredients that it had when sold as a "kidney cure," except that the baking soda and hexamethylenamine had been dropped. Still more recently there have been advertisements for what is called Condensed Jad Salts. This product is said to contain tartaric acid, citric acid, sodium phosphate, magnesium carbonate, baking soda and that good old standby, Glauber's salt or "horse salts" (sodium sulphate).

Lady Grace Mineral Crystals.—This nostrum ran true to form. It was another saline, consisting, according to the federal chemists, of crystallized sodium sulphate, or Glauber's salt, with a trace of table salt. It was marketed by the Grace Natural Mineral Company of Omaha, Neb. While the stuff was represented to be a natural product, the federal chemists pointed out that the sodium sulphate, which was practically the only ingredient, was present in a form that is never found in nature. One of the chief claims for this "patent medicine" was that it was an obesity cure. The stuff was declared misbranded under the National Food and Drugs Act because of fraudulent claims made for it. In October 1933 the Grace Natural Mineral Company admitted (Notice of Judgment, 21516) that the government charges were true, and the court entered a judgment of condemnation against the product.

Mineralcrystals.—This product was put out by the Mineral Wells Crystal and Water Company of Mineral Wells, Texas, and was sold as a remedy for stomach trouble, kidney and bladder trouble, rheumatism, arthritis, high blood pressure, bad complexion, diabetes, gout and "many other diseases." It was analyzed by the federal chemists, who reported that it was essentially dried sodium sulphate (98.7 per cent); that is, Glauber's salt or "horse salts." It also had a small proportion of common salt, chalk, magnesium carbonate and washing soda. The stuff was declared misbranded under the National Food and Drugs Act in July 1933 (Notice of Judgment, 21236) because of the false and fraudulent claims made for it.

Mineral Wells Crystals.—This nostrum, according to advertising in the files of the Bureau of Investigation of the American Medical Association, was "Made at Mineral Wells, Texas." It was another one of the horse-salts preparations (Glauber's salt, sodium sulphate) with a minute proportion of other salts. Some of this preparation shipped from one state to another was seized by federal authorities on the

charge that it was misbranded. The government charged fraudulence in the claims that it would relieve rheumatism and diseases of the kidney, liver, blood and skin and probably 90 per cent of all diseases. In January 1934 the court entered judgment of condemnation against the product and ordered (Notice of Judgment, 21810) that the product be destroyed by the United States marshal.

Minwater Crystals.—This preparation, which was said to "keep you healthy" and to be "Nature's way to health" was alleged to be a remedy for diabetes, stomach, bladder and kidney ailments and numerous other conditions. It was marketed by the Minwater Crystals Company of Dallas, Texas. Like most of the so-called crystals on the market, it was found to be dried Glauber's salt (sodium sulphate) with minute proportions of washing soda and table salt. The stuff was declared misbranded in November 1933 under the National Food and Drugs Act because of the fraudulent claims (Notice of Judgment, 21593) made for it. The court entered judgment of condemnation and forfeiture and ordered the United States marshal to destroy it.

Sleepy Salts.—This product has been so advertised as to lead the public to believe that it is a "synthetic proximation" of a mineral water known as Sleepy Water. The composition of the water, according to the past advertising, has varied. Government analysis of Sleepy Salts has shown that nearly 50 per cent was sodium sulphate ("horse salts" or Glauber's salt) combined with about 35 per cent of epsom salt and a small amount of table salt. The chief claim for Sleepy Salts was that it would make "fat go fast." The federal authorities declared the stuff misbranded because of fraudulent claims. The court sustained the charges (Notice of Judgment, 21537; August 1934) and ordered that the product be destroyed.

Texas Mineral Crystals.—This was another of the horse-salts "patent medicines," for, according to the chemists of the Food and Drug Administration, it consisted essentially of crystallized sodium sulphate, with small proportions of epsom salt and table salt. It was marketed by the Dollar Crystal Company of Omaha. Texas Mineral Crystals was declared misbranded by the federal authorities because of false and fraudulent curative claims made for it. In August 1933 the Dollar Crystal Company admitted the government's charges, and a decree of condemnation was entered (Notice of Judgment, 21559) against the product. The court ordered that the product be destroyed.

Wonder Crystals.—This "patent medicine," which was proved misbranded by the federal authorities, was reported by federal chemists to consist essentially of crystallized sodium sulphate (Glauber's salt, or "horse salts"). It was marketed by the Wonder Crystal Product Company of Holdrege, Neb., and was recommended as a remedy for chronic constipation, Bright's disease, indigestion, chronic gallbladder disturbance, pyelitis, cystitis, diabetes and various other conditions. These claims were declared fraudulent, and in August 1933 judgment of condemnation and forfeiture was entered (Notice of Judgment, 21237), and the court ordered that the product be destroyed. *(Continued on page 664)*

MINERALCRYSTALS

PRODUCED BY THE EVAPORATION OF

NATURAL MINERAL WATER

FROM

MINERAL WELLS, TEXAS

Recommended for Stomach Troubles, Kidney and Bladder Troubles, Constipation, Rheumatism, Arthritis, Neuritis, High Blood Pressure, Auto-Intoxication, Bad Complexion, and many other diseases.

PRICE

ONE POUND - - $1.50
ONE-HALF POUND - $1.00

MINERAL WELLS CRYSTAL & WATER CO.
MINERAL WELLS, TEXAS

MINERALCRYSTALS WAS SOLD AS A REMEDY FOR RHEUMATISM, KIDNEY AND BLADDER TROUBLE, STOMACH TROUBLE, ARTHRITIS, HIGH BLOOD PRESSURE, BAD COMPLEXION, DIABETES, GOUT AND "MANY OTHER DISEASES." UNDER THE NATIONAL FOOD AND DRUGS ACT IT WAS DECLARED MISBRANDED BECAUSE OF FALSE AND FRAUDULENT CLAIMS MADE FOR IT.

CRAZY CRYSTALS WAS SAID TO BE THE CRYSTALS FORMED BY EVAPORATING "CRAZY MINERAL WATER." IN THE ADVERTISING BALLYHOO OVER THE RADIO, ATTEMPTS WERE MADE TO LEAD THE PUBLIC TO BELIEVE THAT CRAZY CRYSTALS WAS NOT A DRUG. AS A MATTER OF FACT, HOWEVER, IT WAS NOTHING ELSE BUT A DRUG.

MRS. WILLIAMS GAINS RELIEF FROM "RHEUMATIC" PAINS

Dr. W. E. Fitch Explains why Natural Mineral Water Often Helpful In Chronic Ailments

William Edward Fitch, M. D.

Mrs. H. Williams, 16 Princeton Street, Clifton, New Jersey, writes: "I suffered very badly with rheumatism but after taking Crazy Water Crystals I am a different person. They are wonderful. I would not be without them, they did me so much good."

Why is it that a fine natural mineral water, made at home from Crazy Water Crystals has benefited so many thousands suffering from "rheumatic" pains and other chronic ailments?

Dr. W. E. Fitch, noted medical authority on mineral water, in a recent radio talk over the National Broadcasting System stated:

"For many years, it has been a mystery even to the medical world just how natural mineral waters produced the amazing results that have made them so popular. Scientific and medical discoveries and research in the last few years, however, are penetrating these secrets of Nature, so that now medical men have a new understanding of the reasons for the power of natural mineral water to relieve suffering. One of these reasons is what is known as secondary mineralization, by which is meant that not only the predominating chemical constituents of a mineral water are of aid but also what are known as the secondary minerals—those present in infinitesimal quantities. The very fact of their being present in this way causes them to have a much more powerful systemic effect than if they were there in larger quantities. Let me recommend wholeheartedly to sufferers from chronic diseases the use of a suitable natural mineral water as a powerful adjuvant."

gate Crazy Water Crystals immediately. Ask any of the millions who have used them.

Crazy Water Crystals are just minerals crystallized from a great natural mineral water flowing at Mineral Wells, Texas, and Thorndale, Texas, a type of mineral water that has built one of the world's greatest health resorts. Nothing is added to the minerals, and by dissolving them in plain water you make a fine mineral water at home at a cost of only a few cents a gallon.

A standard sized package, sufficient for three weeks mineral water treatment in your own home costs only $1.50. Get one today

CRAZY Water Crystals

ARE SOLD BY AUTHORIZED DEALERS EVERYWHERE.

If you don't know of a dealer send us a Money Order for $1.50 and a package will be mailed to you postpaid.

CRAZY WATER CRYSTALS CO.

GEORGE A. SKINNER TELLS HOW TO REMAIN HEALTHY

If You're Going Swimming

EXCELLENT advice has been given by various writers on the value of swimming. That all persons should learn to swim is only the part of good sense in giving them a fair chance to survive in this battle of life. Recently tremendous changes in the conditions under which swimming takes place have introduced many dangers hitherto unknown. Not long ago swimming was enjoyed for only three to four months at the most in the average climate and was indulged in by a comparatively small number of people at lakes, rivers or ocean beaches. Now thousands swim the year around in artificial pools, many comparatively small and unsanitary. Hence the problem of making swimming safe sport is a large one, and it seems only fair that those who indulge in this sport should realize the dangers and take the precautions necessary to make it as healthful a pastime as it is a pleasant and exhilarating one.

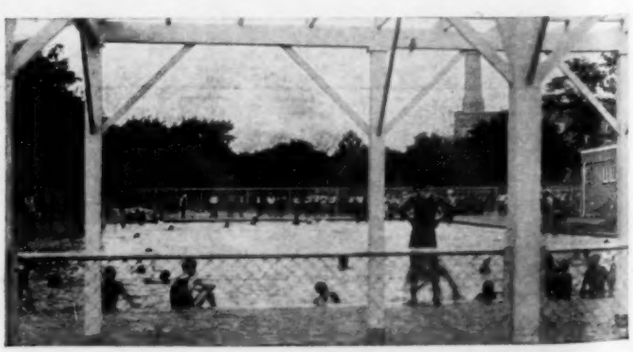
Where there is constant movement through a large body of water, due to the wind and current, the purity of the water in which swimming takes place is not often questioned. Yet the bathing beaches may become polluted unless the strictest sanitary supervision is maintained. It is not difficult then to imagine what effects the presence of a large number of people can have in a small pool, especially in the hot summer weather, unless the most extreme measures known to sanitary science are enforced at all times. Such a swimming pool becomes exceedingly foul in a short time. Fortunately there are now comparatively few pools in use where sanitary supervision is not available; but there are many where the methods used are faulty or insufficient or both.

The human body is capable of transmitting many infections through swimming pools. Naturally the parts directly in contact with the water are more liable to be infected, and the resulting diseases of the nose and throat, eyes, ears and skin, particularly the skin infections of the feet, are frequent and annoying. Intestinal diseases such as typhoid, dysentery and the like may also be contracted while swimming. Perhaps no other single factor is as responsible for the great increase of sinus troubles in recent years as the swimming pool with incomplete sanitary equipment. If the pool is a commercial venture, with profits the first requisite, much damage to public health can be done.

Even with the most modern installation, care is necessary to insure benefit rather than harm from the use of the swimming pool. The water supply may be constant and abundant; it may be filtered and chlorinated rapidly enough to care for the load which it is carrying, and the pool may have skimming gutters to remove much of the surface dirt; yet danger may be present, for the greatest hazard to swimmers is the human element. Every person should be required to take a complete shower-bath with plenty of soap before he enters the pool. Toilet facilities should be provided at the entrance so that human wastes will not enter the water. The bathing suits should be disinfected after use, and the towels should be subjected to high temperature in the laundry for sterilization. All

Ewing Galloway

NOT LONG AGO SWIMMING WAS ENJOYED FOR ONLY THREE TO FOUR MONTHS AT THE MOST IN THE AVERAGE CLIMATE AND WAS INDULGED IN BY A COMPARATIVELY SMALL NUMBER OF PEOPLE AT LAKES, RIVERS OR OCEAN BEACHES. NOW THOUSANDS SWIM THE YEAR AROUND IN ARTIFICIAL POOLS, MANY OF WHICH ARE COMPARATIVELY SMALL AND UNSANITARY.



AND HAPPY

Cy. La Tour

THE PRESENT EFFORTS TO RETURN TO FISH LIFE IN DIVING AND THE CRAWL STROKE ARE DIRECTLY THE CAUSE OF MUCH HEAD INFECTION AND DEAFNESS. SINCE MAN IS NOT A FISH, NO AMOUNT OF PRACTICE IN THE WATER WILL MAKE HIM ABLE TO TOLERATE THE CONSTANT DAMAGE TO THE MUCOUS MEMBRANES WHICH PROTECT THE INSIDE OF THE NOSE, THE MOUTH AND LUNGS.

this would indicate competent and constant sanitary supervision.

But these methods are not enough. Swimmers should be taught that too long exposure to the lowered temperature of the water will lower the temperature of the body and may result in a head infection. While the water itself may convey germs into the nose and throat, and so infect the head sinuses, a severe inflammation from the activities of germs already in the head may result when the body temperature is lowered. Chilling is therefore to be avoided. Prolonged chilling may, in addition, cause trouble with the kidneys. Hence one's enthusiasm for the water should be tempered with caution.

Perhaps millions of years ago man could live in the water without harmful results. However, his structure has changed during the eons of his evolution, so that the membrane which now lines his breathing apparatus not only is unfitted for contact with the water but resents it exceedingly. Consequently the present efforts to return to fish life in diving and the crawl stroke, for example, are directly the cause of much head infection and deafness. The crawl stroke is beautiful to behold when done by an expert, but irreparable damage may be done in learning it. Even the expert will occasionally get out of coordination and take in a mouthful of water instead of air. He chokes a bit and then goes on as though nothing has happened. There is always the chance that he has drawn infected material into his head sinuses. In fact a man who is much in the water, diving and swimming with his head submerged, rarely has normal hearing. Some swimmers are decidedly deaf. This condition was once attributed to the so-called dampness at the seaside or lake shore, but most of the trouble is due to direct infections from swimming under water.

With these facts in mind, it would be wise to require that all swimming tanks be filled with water at a purity close to that of drinking water, since frequently it is taken into the mouth and nose and is in contact with the eyes; to exclude all persons with skin diseases or other possible contagious diseases, when recognizable, and to teach swimming and life saving methods with the idea of keeping the head out of water as much as possible. Of course not every one who goes in a swimming tank gets an infection, but most people would be surprised if they knew how many troubles start just that way. Since man is not a fish, no amount of practice in the water will make him able to tolerate the constant damage to the mucous membranes which protect the inside of the nose, mouth and lungs. If the practice of diving and underwater swimming continues, the number of deaf in the next generation will be greatly increased. The only thing to be done is to avoid all possible injury of the membranes. Some land animals can swim under water, but they can close the nose and ears. This, man cannot do. Therefore to be able to enjoy this most delightful sport, swimming, without paying a tremendous penalty, let the body be in the water, but keep the head in the air.

The Nervous Child

By FRANCIS J. SCULLY

THE NERVOUS child is always a problem. Therefore one must realize that many difficulties in child behavior can be traced to nervousness.

A nervous child is not necessarily one who is unable to sit still, as activity is a normal characteristic of every child who is well. The child who is truly nervous is irritable, excessively emotional, easily tired, more or less self centered and exceedingly susceptible to suggestion. Often he is noisy and continually annoys or interrupts his parents or those about him with demands for attention.

The cause of the nervousness may be some abnormal physical condition. Not infrequently there is an infection, particularly in the tonsils. The bowels may be sluggish, allowing the absorption of toxic products which affect the nervous system. At times the child is simply tired or has not had sufficient sleep. In many instances the cause may be traced to the parents. Either one or both parents may be nervous, and a child brought up in such an environment will often become nervous too. If the mother is irritable and easily upset in her daily work and does not meet conditions with calmness and resourcefulness, the child soon imitates her reactions and may become extremely nervous.

In correcting the nervousness the first step should be to see that the child is physically normal. If the tonsils are infected their removal may sometimes be expected to have a favorable effect. If the bowels are irregular in their action, this should be corrected. Undernourishment and faulty eyesight should also be corrected. In many cases the child may be perfectly normal, and the nervousness may be the result of the surroundings in which he lives.

A definite routine for the daily life of the child should be instituted. It should not be varied for trivial reasons. This will lessen the strain on the nerves and will allow them to become stronger. The child's schedule should be arranged to include sufficient time spent in the sunshine and fresh air. A sensible diet should be taken at definite and regular intervals. During the winter months, viosterol or cod liver oil preparations are useful. Periods of rest are important in a child who is below normal physically and who is easily tired. Children need rest, quiet and freedom from unusual stimulation. Because the child quickly acquires habits of nervousness by imitation the parents should be calm in his presence.

Century Photos

MANY DIFFICULTIES IN CHILD BEHAVIOR CAN BE TRACED TO NERVOUSNESS, FOR THE NERVOUS CHILD IS IRRITABLE AND EASILY TIRED.

As a result of nervousness in children many problems of behavior or abnormal conduct may arise. Four groups of children presenting behavior problems will be discussed: the spoiled child, the obstinate child, the incorrigible child and the maladjusted child.

BECAUSE of unusual attention on the part of the parents the nervous child may become a spoiled child. He becomes wilful and selfish, and he develops habits of noisiness, or of unusual performances in order to attract attention or to get what he wants. Such a child will not eat certain foods or will not do anything unless he is coaxed or rewarded for doing so.

This condition develops particularly where the child is allowed to show off before adults or where his behavior is considered "cute" or unusual. Frequently the spoiled child is one who has had much petting during a long illness or who is not strong physically. It is realized

that there is a natural tendency for the parents to favor the sick child with unusual attentions, but it should not be carried to the degree that the child becomes self centered. It is likely to occur where the child is the only offspring of his parents.

In treating this condition the routine for the child's daily life should include a definite time for meals, play and rest; and this plan should be adhered to closely. The child should be taught that his performances are not unusual. He should be surrounded by those influences and things which the parents wish him to learn. His attention should be directed toward these things, but he should not be forced or coaxed to learn them.

Discipline may have to be considered, but it must be constructive. It should teach and never punish. Only vital measures should require discipline. There should be no argument over trivial things as this simply brings about a loss of respect and fosters the development of nervousness. All arguments should be saved for real issues. Discipline should be enforced quietly and never under emotional tension. Routine habits should be developed, and only necessary duties should be insisted on.

A further development of nervousness may cause the child to become obstinate. Such children are disobedient, mischievous and selfish. Frequently they have tantrums of temper or nervous storms if they are asked to perform simple duties.

This condition generally occurs where there is a lack of discipline in the home. It may also develop when the parents neglect the child; he does not know what his parents expect him to do. Sometimes the child will deliberately disobey to obtain attention or recognition from his parents. Many children are mischievous because they are not provided with anything suitable to occupy their time.

In correcting behavior of this character, discipline is necessary. A routine plan of living should be instituted, and the child should be taught to respect the wishes of his parents. There should be no argument or emotional scenes in having the plan followed out. Suitable manual training is extremely helpful for it will keep the child occupied and will aid in correcting abnormal habits. Sometimes the home is not arranged so that the child can easily perform his duties or the tasks he is directed to do. These conditions should be checked carefully, and arrangements should be made so that the child will find it easy and pleasant to do his work.

It is easy for the obstinate child to become disobedient and to lose respect for his parents. This attitude can easily carry him to the point where he will not respect the rights and property of others, and he may destroy or steal.

In the development of this condition there is the same lack of discipline and of attention on the part of the parents as in the development of the other behavior problems. However, fear often plays a part. Sometimes fear develops as the result of some unpleasant situation or experience. This may be joined by association with other conditions which will cause fear, the so-called conditioned fear. For instance, the child may dislike his teacher, and from that dislike he may acquire a dislike for the subject in which the teacher instructs him. Such unpleasant associations engender abnormal behavior; and when the child is forced to go on, he may resort to lying or become incorrigible in trying to avoid the thing he fears. Children should be guarded from any experience that produces fear, as fear affects not only the body but also the mental state. Certain fears are desirable, such as fear of fire, deep water and unsuitable food, but it is untrained fear that causes difficulty. Children are exceedingly susceptible to experiences and should be taught to meet conditions bravely. They should not be petted after having a little bump but should be taught to meet such minor experiences with courage.

In correcting incorrigibility, physical punishment is not always helpful, but this does not mean that it should be omitted entirely. At times the child will be able to learn his lesson only when the experience is made unpleasant. More can be accomplished by quiet talks on the part of the parents and an attempt to make some adjustment that will avoid the necessity for such behavior on the part of the child. The establishment of good habits in the emotional states of fear and anger is of the greatest importance. Manual training is important here as it will direct the child in the more healthful activities and will bring more normal thoughts to mind. The sense of accomplishment and the satisfaction of doing things frequently drive out morbid impulses, and the child will go on to normal development. Sometimes the work given the child is too strenuous for his strength, and an effort should be made to lighten the strain that is placed on the nervous system. Where the school work is too rigorous the child may be taken from school for a time or the load may be lessened. Because a child is of a certain age does not mean that he is capable of the same amount of work as other children of the same age. He should be given only such a burden as he is able to carry.

With nervousness often come disturbances of the personality which have a marked influence on the character of the child. He is poorly adjusted to meet the problems and situations which are presented. Either a feeling of superiority or a sense of inferiority develops. The child who feels inferior becomes timid and

retiring and is bashful; on the other hand the child with a feeling of superiority is likely to be domineering and become a bully.

In the development of these conditions the parents are to blame to a large degree. A sense of inferiority is developed when the child is repressed in his activities and is not allowed independent action even in little things. Many mothers feel that they are saving their children when they decide everything for them and direct them in every way. Such children do not develop judgment, and when they are faced with problems they are undecided and timid. Lack of instruction and neglect on the part of the parents may also result in this type of personality disturbance.

The domineering child, on the other hand, has received too much attention. He has been shown off or has come in for too much praise for his accomplishments. He acquires an exaggerated sense of his importance and becomes the center or king of the household. He will have tantrums of temper if he is not allowed to have his way and may become disrespectful or even attempt physical violence if he is crossed.

In correcting such conditions the attitude of the parents must be changed so that the child may secure a more normal sense of social values. He should be taught to meet other children and adults in a natural way without embarrassment and without being conspicuous. This is an important problem as the dominant feeling or character that is developed by the child is persistent throughout his life and may be a great help or may become a great handicap as he grows older. If he is timid he will be imposed on and will never develop initiative. The bully will attempt to assert his independence and superiority and may have many bitter lessons before he learns to respect the rights of others. It will require constructive help from the parents to correct the child's attitude.

The problem of handling the nervous child and the difficulties of behavior that arise from it are not simple. Prevention is easier and is much better than the cure. The training of the child to obtain a normal development of a healthy mind and body as well as character will do much to prevent the individual from later wrecking his life. The reform of social evils and the upward development of the race depend on the training of the children.

Parents owe it to their children to see that the home gives the proper surroundings as they grow up. The school cannot take the place of the home. The teacher is not able to accomplish much without the cooperation of the parents. Many parents pass the task to the teacher, thinking that she is an expert and that she has all the latest ideas in child training and in establishing discipline. But the teacher cannot solve the problem single handed. She must have the cooperation of the parents. The parent who leaves the task to the teacher is like the patient who in spite of the advice given by his physician continues to live an unhealthful life and expects the physician to keep him well without making any effort himself.

The school cannot and should not be required to compete with home influences; the home is a permanent thing while the school is only incidental. Natural training should begin in the home, and the early years are the most important. Impressions received in the first seven years are permanent and forceful, and they are the foundations on which later experiences are laid. The parents must not put off training and discipline until later, with the intention of starting when the child is 8 or 10 years old; they are mistaken in thinking that he is too young to remember anything before that time.

Certain habits can be established early, such as correct eating and sleeping habits. The child may be taught to dress himself and to ask and not cry for what he wants. He may be taught more easily at this age than later certain rules that require immediate obedience, such as to stop when warned and to come when called. The child must learn gradually; he cannot learn all at once how to keep quiet, to obey, to go to bed, to go to sleep, to eat the food that is placed before him and to adjust himself to people. These tasks should be started early, and habits should be established before he is 5 years of age, so that there may be less stress later when the more complex adjustments have to be made. In training animals, one starts as early as possible since the early habits remain, modified to some extent by later influences.

Physical habits are often stressed, but mental habits also demand serious consideration. The child imitates the parents, and therefore the behavior of the parents in the presence of the children should be correct. Just as the child learns his speech from his parents and as the character and quality of his speech depend on the correctness of the speech that the parents use, so also the ease and naturalness with which the child meets problems later in life will depend on how he was brought up. A definite daily routine with proper rest and freedom from unusual stimulation together with instructions in correct behavior will result in normal conduct. Discipline given to toughen the moral fiber and to strengthen the child to exert good judgment may also be necessary. Neglect is often the cause of nervousness, but overattention is sometimes worse than neglect. The child should be considered as an immature adult and should have calm, matter-of-fact consideration and a wholesome harmonious home life with a proper outlet for his energies; under these circumstances he will not acquire nervousness.

"TO MARKET, TO MARKET"

HARRIET MORGAN Gives Helpful Hints on Making the Most of a Limited Food Budget

GOING TO THE GROCERY STORE WELL ARMED WITH A MARKET LIST MADE UP WISELY IS A HEALTH PROTECTION TO THE FAMILY.

MOST AMERICAN mothers do not realize that going to the grocery store well armed with a market list made up wisely is a health protection to their family. The sudden change from comfort to relative poverty experienced by so many families inevitably has been accompanied by failures to readjust the standard of living to the bare essentials of life. These essentials are being sacrificed in a struggle to maintain something of the former standard. There are mothers who still distort the scale of food expenditure to fit the food prejudices and fads of the family members, some of which are traditional and others the result of the less legitimate advertisements of food industries. Other mothers are inclined to make hunger the sole criterion in food selection. Surplus quantities of sugars and fats are purchased at the expense of the vitamin and mineral carrying foods because they satisfy the appetite quickly and "stick to the ribs" rather longer than most foods.

When there is little money to be spent for food, what are the essential foods that should be purchased? First of all comes milk; at any level of food expenditure, milk is the most important food to be purchased. Money spent for milk will bring greater return in nutritive value than money spent for any other food. Milk is the simplest medium that affords a vitamin A supply. Vitamin A does many remarkable things in the body, and among its other services it may aid in keeping the mucous membranes in a normal condition.

Milk contains another food element, calcium, that is decidedly a part of the picture of health. Calcium is essential for building strong, straight bones, good teeth and well bodies. A really liberal supply of calcium compounds is essential for the maintenance of that ringing physical tone which is an asset in resisting disease. The nutritive value of milk is practically the same whether fresh milk, evaporated milk, dried whole milk or an equivalent amount of dried skim milk and butter is purchased. Failure to provide each member of the family with at least one pint of milk a day can mean only that the family members are being subjected to a serious health hazard.

FOR adults and for older children, American cheese may replace part of the milk in the proportion of 1 ounce to 1 cupful. Cottage cheese, while excellent in protein value, has a lower calcium value than American cheddar cheese. Plain American cheese is the cheapest whole milk cheese, and cottage cheese is the cheapest of the skim milk cheeses.

Next to milk, eggs are the best all-round food. An egg contains a great many substances which

contribute to the picture of health. Like meat, egg is essentially a protein food. Protein is necessary in building muscle and repairing body tissue.

Normally eggs contain vitamins B and G. Vitamin B is closely associated with appetite, assimilation of food, normal functioning of the intestines and good stomach tone. Vitamin G, sometimes called the Siamese twin of vitamin B, is also important for health. More will be said of these vitamins in the discussion on vegetables. If the hen has the right kind of food, the egg yolk is a rich source of vitamin A and contains some vitamin D as well.

THE presence of vitamin D makes egg yolk especially important as food for children. This is the vitamin that is necessary, along with milk, for proper bone development and the prevention of the children's disease known as rickets. Vitamin D must be present, with calcium and phosphorus, in order to keep the children's bones in a healthy growing condition and to prevent rickets. In addition to these vitamins, egg yolk contains all the blood building constituents, iron and the important trace of copper. Because of all these factors, doctors recommend eggs for children as a supplement to milk but not as a substitute, because neither the white nor the yolk of the egg contains much calcium. For that essential, milk is the richest source.

Vegetables and fruits are the next best sources of vitamins and minerals and are essential for optimal health and development. Some of the best vegetables are the cheapest. Potatoes, for example, contribute mineral salts and vitamins, especially vitamin C. A liberal supply of vitamin C is needed for sound teeth and healthy gums as well as for general physical stamina. A deficiency of vitamin C lowers the power of resistance of body cells and brings a pervasive if vague sort of general ill health. Other worthy sources of vitamin C are oranges, grapefruit, lemons, berries, pineapples, apples and tomatoes, either fresh or canned, and many of the leafy vegetables, especially if they are eaten raw.

A green vegetable or a yellow vegetable is necessary every day in addition to potatoes. These colors indicate the presence of vitamin A. Scientists have found a definite relation between vitamin A and the pigment known as carotene. Where this pigment occurs in fruits and vegetables, either vitamin A is present or the carotene may be changed in the body to vitamin A. Green leafy vegetables such as the tops of turnips and beets, spinach, lettuce, swiss chard or cabbage are good sources of calcium and iron as well as vitamin A. Chopped raw cabbage and grated raw carrot constitute a mixture rich in vitamins and mineral salts.

Vitamins B, C and G are also found in green and yellow vegetables. An adequate amount of vitamin B is vital because vitamin B is closely associated with appetite, assimilation of food, normal functioning of the intestines and good stomach tone. Vitamin G must be present too, because it is essential for growth and longevity. Apples, bananas, prunes, raisins, dried peaches and apricots head the list of the cheaper fruits that are potent sources of vitamins and furnish minerals as well.

RECENT research in nutrition teaches that for most persons an intake of vitamins which is just sufficient to prevent deficiency diseases, such as beri-beri, which results from lack of vitamin B, xerophthalmia, which is caused by lack of vitamin A, scurvy, which is attributed to lack of vitamin C, and pellagra, the result of lack of vitamin G, may still be far below that required for optimal health. In view of all these facts, it is not hard to see why fresh or canned vegetables and fruits are important and must be provided if the diet is to be adequate.

The mere purchase of an ample supply of these protective foods is not enough; vegetables and fruits must be cooked properly to insure vitamin and mineral content. An ample vitamin supply may be purchased and most of it

OVERCOOKING OR COOKING IN TOO MUCH WATER MAKES VEGETABLES FLABBY AND DESTROYS NUTRITIVE VALUES.

A MINIMUM AMOUNT OF WATER SHOULD BE USED, AND THE VEGETABLE SHOULD BE COOKED ONLY UNTIL IT IS TENDER.

destroyed in the course of preparation. Cabbage cooked for an hour with a ham butt has little or no vitamin C value.

Loss of food value in cooking is due in part to the fact that some of the nutritive materials in the vegetable dissolve in water. This is true of some of the vitamins and mineral salts, some of the proteins and sugars and even some of the starches. The more water and the greater the cut surface of the vegetables, the greater this loss becomes. Therefore, says the expert, cook the vegetable whole when you can. Use as little cooking water as you can, and serve the liquid with the vegetable, or else in soup, sauce or gravy. Cook the vegetable only long enough to make it tender. Overcooking makes it flabby, soft or mushy and causes greater loss of nutritive values.

In addition to vitamins and minerals, fruits and vegetables furnish bulky material which carries water into the large intestine, thus keeping its contents in a moist, plastic condition, which facilitates regular bowel movements. Vegetables and fruits, as well as whole grains, contribute to the diet an indigestible residuum which is helpful in promoting intestinal elimination.

LEGUMES have special values which may be lacking when other foods are out of reach of the purse. This is true of beans of all kinds, peas of all kinds, in fact of all the legumes, or edible plants belonging to this family. The most important substance in beans is their protein content. Most vegetables are not remarkable for their protein content. The legumes, however, not only have a great deal of it but have a kind more nearly like the protein of meat. Not only are legumes richer in protein than other vegetables, but when dry they show a higher percentage of protein than does fresh or canned meat. If one cannot have meat for dinner, bean loaf or bean soup fills the gap better than most other cheap dishes.

Beans, peas and lentils also contain large amounts of starch and small amounts of fat; hence they are of high food value. Legumes furnish important quantities of iron and phosphorus and, to a less extent, calcium. Legumes also contain the appetite promoting vitamin B. It is not hard to see, then, why legumes are important when other, more expensive foods are out of reach.

Lean meat, organs such as liver, heart, kidneys and brain, and fish are the best sources of protein other than milk and eggs. Beef, pork and lamb liver are equal to or better than calf's liver in health promoting properties, and they are lower in price. Oily fish like salmon, mackerel, sardines and herring furnish vitamin A and small amounts of vitamin D as well as protein.

The less money there is for food, the greater the quantity of cereals that should be purchased.

AN OLD FAMILIAR RULE WHICH HELPS THE HOUSEWIFE TO SPEND HER FOOD DOLLAR JUDICIOUSLY IS: "ONE-THIRD FOR MILK AND CHEESE; ONE-FOURTH FOR VEGETABLES AND FRUITS; ONE-FIFTH FOR CEREALS, BREAD AND LEGUMES; ONE-EIGHTH OR LESS FOR FATS AND SUGAR, AND THE REST FOR MEAT, FISH AND EGGS."

Cereals are the cheapest and best sources of energy one can buy. Whole cereals contain more mineral and vitamins than elaborately manufactured cereals. They usually are cheaper too. For example, a bushel of corn purchased in a form to be cooked at home costs $2.28; if it were purchased in the form of a prepared cereal it would cost $10.21, an expenditure greatly out of proportion to the food value received, and one which pinches the pocket-nerve! A pound of whole-ground wheat will make breakfast cereal for two days for a family of five, with generous servings. At 3 cents a pound, the cost of such servings would be less than ⅓ cent each, or 1½ cents a day for the family. A peck of wheat (15 pounds) is enough to provide such a family with breakfast food every day for a month. To cook the whole grain it is best to soak it overnight.

Fats can be counted on only for energy value and flavor, with the exception of beef fat, which contains vitamin A also. Sugar also is an energy yielding food. It differs from other foods in that it is a pure chemical substance and is totally devoid of vitamins and minerals. When excessive amounts of refined sugar are consumed, the quota of foods which contain indispensable nutrients is lessened.

When food pennies count, a plan or food budget eases the pocket-nerve and also assures wise division of the food money. An old familiar rule which, if remembered, helps the housewife to spend her food dollar judiciously is: "One-third for milk and cheese; one-fourth for vegetables and fruits; one-fifth for cereals, bread and legumes; one-eighth or less for fats and sugar, and the rest for meat and fish and eggs."

THE INTERIOR OF A COMFORTABLE HOME IN LABRADOR.

CUPBOARDS IN LABRADOR

By
Edith Boden

ONCE I asked Lieutenant-Commander Donald B. MacMillan what was the first thing which led him to feel that Captain Cook had not reached the North Pole. Without a second's hesitation he replied, "His cupboard was bare. He and his men without sufficient supporting parties could not possibly carry enough food to last them all the way to the Pole."

Until I went to Labrador as a Grenfell worker, I had never given a thought as to how bare northern cupboards might be in the homes of the liveyeres, the inhabitants of the Labrador coast, who never have any supporting parties on which to fall back. I found that liveyere housewives, no less than Arctic explorers, must scheme and make use of everything for food to provide not only for their families but also for their guests.

Since in Labrador no native, when he journeys from place to place, pays anything for food and lodging, one's visitors can almost eat one out of house and home. Although geographically the site of the village may be off the path of the traveler, hospitably speaking it is always on the broad highway, with its lamps trimmed and burning. In a country in which every ounce of food shared with outsiders means that much less for one's own family, it was a never ending source of wonder to me to see the liveyeres put on an extra plate for any wayfarer who came through the village.

SINCE in Labrador there are few stores, the people must look to the sea for their food, not only as pantry but as highway. Fishermen, I found, cannot always catch fish. Contrary to general belief, the main food of the Labrador liveyeres is flour obtained either from the trading vessel, which comes into the coves once or twice during the summer, or from the little outport stores located many miles away and reached by dog team in winter. It is the event of the year when the two-reefed schooner anchors in the bay and the village sallies forth to do its trading, a word used advisedly, for the year's supply of necessities is usually obtained in barter for the season's catch of fish, a far more common medium of exchange than currency.

How thrilled I was to go aboard the "trader," to be hauled by hand over the side of the little vessel by the merchant himself and with the other villagers to squeeze between casks of meat, barrels of vegetables, cans of butter, paint and kerosene, coils of rope and buckets of tar, and climb down a shaky ladder into the little store in the engine room. I crowded close to the most prosperous liveyere housewife and listened carefully as she gave her order. It included 8 barrels of white flour at $16 a barrel—they count on a barrel a year for each member of the family; ½ barrel of salt beef at $30; 1½ barrels of salt pork; 100 pounds of "rollers," the local name for oatmeal; 35 gallons of molasses; 100 pounds of dried beans and 100 pounds of dried peas, which I learned later was at least five times as much as the average northern family of the same size buys; 30 pounds of rice at 20 cents a pound; 15 pounds of tea at 60 cents a pound, and 2 barrels of salt at $2 a barrel. These were her essentials.

Now for the extras. These included 30 pounds of raisins, 20 pounds of sugar, 10 pounds of

cocoa, 1 pound each of pepper, spice and ginger, 4 jars of mustard, 4 bottles of pickles and 1 bottle of flavoring. Her requests for some of these as well as for yeast cakes, baking powder, dried prunes and apricots, lard and bacon were met with a shrug as the merchant explained that he had already sold out all the supply of these commodities that he had brought this trip. No, he did not think he would be back this year.

As he totaled her bill, he tried to sell her some cheese, which rested on the lid of an opened paint barrel under some muskrat and rabbit skins which were drying as they swung from the ceiling. She bought instead some dog feed. Her husband, like all the other men in the village, had a half dozen huskies, which never barked but slipped silently about, lean and shaggy in the summer; for since they were not working, they must literally fish for themselves. In the winter they were fed fish or a mixture made from fish and corn-meal, but corn-meal was expensive and a poor substitute for fats and meats for working dogs.

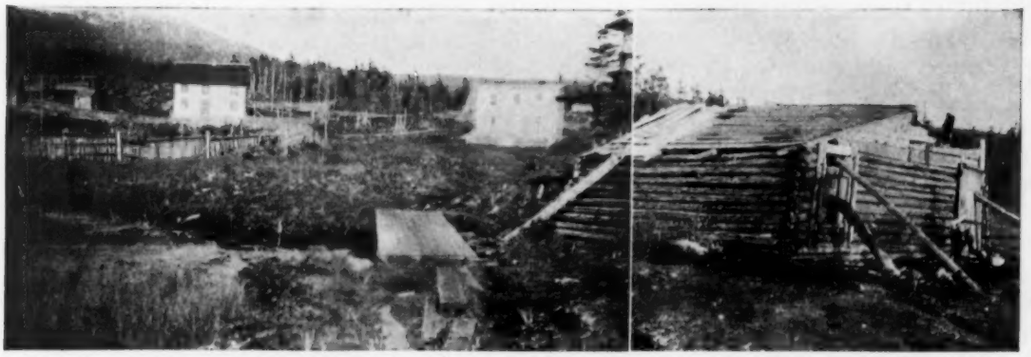
The fresh fruit on the "trader" was limited to second-rate oranges, at 8 cents each. The canned fruits were inferior in quality, exorbitant in price and often uncertain in content, since some of the labels were missing or had come off and had been restored at random. However, the gardens furnished delicious rhubarb, and the marshes and barrens supplied all the familiar sorts of wild berries, and in addition squashberries; partridgeberries; cranberries, known locally as marshberries; serviceberries, usually referred to as pears, and the popular bakeappleberry, an amber colored, superjuicy raspberry, so named because it is supposed to taste like a baked apple.

The culinary problem of the northern housewife is divided into three parts: securing food, storing it and preparing it. The commissary department of the home in which I lived included a kitchen containing a pantry, merely a huge built-in cupboard, and two cellars, a shallow one beneath the kitchen and another one built out of stone on top of the ground and equipped with a tiny stove. In these cellars were stored the homegrown beets, turnips, cabbages and potatoes, the latter often a most peculiar purplish blue from the soil in which they grew. There was a little shack of a smokehouse from the cross-pieces of which dangled fish and game, drying in the smoke from a slow fire beneath. Down on the shore was the fish factory, equipped with a stove, a wash boiler and a barrel of brine, offering facilities either to can the fish or to pickle it. Close to the fish factory was "the store," a small cabin in which the flour, salt pork, cans of molasses and tubs of berries "put down" in water rubbed elbows with each other.

This storehouse was raided most successfully some winters ago by two polar bears, one of which, when caught in the act, paid for its thievery with its life. Perhaps berry pits should be included in the commissary, too. I was somewhat skeptical when first told that bakeappleberries and some other kinds could be preserved for an indefinite time by merely being sunk in cold water, either in containers or in a marshy hole in the ground well protected from animals. The process sometimes gives them a peaty flavor, but if the berries are just ripe enough, the water cold and the weather cool, they will keep in perfect condition for a long time. I must not neglect to mention our "dairy," for unlike the majority of liveyeres, we had a cow.

The equipment of the home in which I lived was much more complete than that of most northern homes. The kitchen, papered with newspapers and serving also as a dining-room and living-room, boasted a small four-hole combination cooking and heating stove, the fuel for which was hauled home by dog team from a forest only 1 mile away, although sometimes Labradorians have to bring their wood home by boat for 15 or 20 miles. The hot water supply came from an immense iron kettle which sang on the stove continually; the cold water was obtained from an open spring in the village. The sink consisted of a shelf and two huge buckets; the

"US IN LABRADOR HAS TO COOK WHAT US FINDS TO EAT AND BE THANKFUL US HAS IT." IN THIS CASE, THE LIVEYERES ARE BRINGING IN ARMLOADS OF DRIED COD WHICH, HOWEVER, LOOKS MORE LIKE KINDLING THAN LIKE COD.



THE DOG BARN, SHOWN IN THE FOREGROUND, IS AN IMPORTANT ADJUNCT TO THE LIVEYERE'S HOME.

"kitchen cabinet" was a built-in affair with uncovered shelves above to hold dishes and a cupboard with doors below to serve without ice as a "refrigerator" for crocks of butter and pans of milk. In the kitchen was an assortment of well worn pots, pans and skillets, a rolling pin and a potato masher carved by the same northern hand, a floor painted to resemble a rug, benches instead of chairs, an immense woodbox used in emergencies as a bed, a washstand, a kerosene lamp replaced by home-made candles when the supply of oil ran low, an alarm clock and a long table covered with oilcloth.

THE liveyere housewife does not lose the respect of her neighbors if she does all her cooking herself, even though a "servant maid" could be had in predepression times for $10 a month. But even that sum was not included in the budget of the average liveyere family whose necessary and too frequently unobtained income ranged from $250 for a family of three to $500 for a family of from six to ten.

Some of my neighbors, the ones who made spruce beer by boiling kettles of spruce branches and then fermenting the liquid with yeast, used to try to convince me that the expenditure of $5 for a jug of whisky was a much wiser investment for a liveyere family than the same amount spent for canned fruit. They said the whisky would last a family a whole year while the cans of fruit would not last a week when used to treat. Their surprise at my wish to serve canned fruit as an actual part of the meal was equal to mine at discovering that they would "stand treat" either at home or in an outport store for a can of peaches, pineapple or plums.

Until I went north, I thought eggs were a necessity in cooking. I found that the difficulty of keeping chickens, due to the antipathy between northern dogs and chickens in which, of course, the dogs always came out victorious, had caused many liveyeres to decide that they could get along better without chickens and eggs than they could without dogs.

I was surprised to see the cakes that were baked without eggs, sugar, shortening and even without flavoring. In fact it was really an event when we baked a "special" cake, one containing all the ingredients which American cooks seem to consider essential. Labrador is a wonderful place for developing resourcefulness. I learned to use molasses instead of sugar not only in cakes and puddings and sauces but also with oatmeal and tea. I also learned to use a geranium leaf or a sprig of peppermint for flavoring when the last drop of vanilla extract was gone. Dried blueberries took the place of currants; crushed berries were used instead of cake filling; berry juice, put up in the summer in precious empty medicine bottles, served to color frosting, and mock-cherry pies were made out of raisins and cranberries cut in two. We made vinegar from native herbs; finnan-haddock from haddock by a process of drying, smoking and salting; isinglass gelatin out of the swimming bladders of cod, and lard from either salt pork or caribou tallow. Even the vile tasting seal oil was used for frying doughnuts; but the oil had to be kept so hot that it almost burned, and the baking powder was omitted. This process obtains porousness but gives the doughnuts a greaseproof, pretzel-like glazing on the outside.

THOSE who will eat nothing except toast, grapefruit and coffee for breakfast may look askance at the morning menus of the north. We often made a meal on "rollers" sweetened with molasses or on fried home-cured smoked fish, the viands not always accompanied by bread but always washed down with numerous cups of tea as strong as lye. Many a good liveyere breakfast is made on baked beans. A favorite summer morning meal consisted of the popular native dish of "fish and brewis," made of hard bread soaked overnight in milk or water, then boiled with fish and afterward covered with tiny pieces of fried salt pork. For the liveyere nothing starts off a winter day better than toasted salt fish or cod steak, dipped in corn-meal and fried in salt pork, although even codfish properly "jerked" in the smokehouse makes a good meal to stick to one's ribs. A genuine treat was a caribou steak or toasted strips of fresh venison. However, the real standby of the meat supply was rabbit.

Last year the members of my household trapped more than 1,200 rabbits, 500 of which

were used either as fresh or as canned meat. Grouse, partridge and ptarmigan furnished many a good dinner. Even small birds such as starlings, robins, plovers and yellow-hammers appear in potpies on northern tables. My protest that song birds should be spared called forth puzzling queries as to why it is all right to kill big birds such as ducks, geese and snipes and wrong to kill small ones especially "when the little fellers screeches and bawls around wonderful to worrit one."

Until the first of August the green vegetables were limited to lambs' quarter, dock, spinach and dandelion; but after that, if the frost held off and if the dogs and mice and lemmings had not ruined the gardens so laboriously cared for by the women, how good the tender home-grown products tasted!

THE noon "scoff" was called dinner; the evening meal was "tea" or "mug-up," usually a sort of lunch consisting of one item. This might be soup, either potato, split pea or "bread soup" made by boiling pieces of bread in the water in which fish, caribou or rabbit had been stewed. Sometimes it was eel, parboiled in the skillet, dipped in corn-meal and fried in salt pork; eel was also boiled as in a stew and served with boiled rice. Often we had capelin roasted whole, or canned rabbit made into soup or stew, depending on the amount of flour thickening and the quantity of potatoes and turnips put into it. Molded fish was made of boiled potato, boiled fish and cold, boiled birds' eggs chopped together. Often we had creamed salt codfish. Two native dishes which I greatly enjoyed were cods' tongues and cods' heads, known locally as "fishes' faces," fried slowly in salt pork drippings. In poor families, a whole meal was often made on "white gravy," merely flour and water boiled together, quite unflavored by a bit of pork or seal or rabbit.

How many times, I wonder, did the native housewives tell me of the American woman who, when she came north, was so ignorant that she actually threw away the tongue and the heart of the caribou. The very idea! Didn't she know that the tongue is a titbit, particularly nourishing for invalids, and that the heart is palatable either roasted or stewed? They did not tell me, but I suppose she did not know enough, either, to use the bones for their marrow and for making soup.

For dessert there was no parfait or even ice cream. Dessert was always a vital part of the meal, not merely an addition. In season there were berries and at other times cakes, usually made without sugar or lard. A great favorite was "lassy loaf," or gingerbread. Pies were made without shortening and often filled with preserved berries or a thickening of flour, molasses and flavoring. More often there were puddings such as the common rice or bread pudding. Bag pudding was a mixture made from flour, grease, molasses and native berries. There was also raisin duff and "coati"; the duff was a steamed dumpling, and the "coati" was a sauce made of flour, sweetening and water which were boiled together and poured over the pudding.

Dietitians will hold up their hands at the lack of proper distribution of calories and at the lack of vitamin content in these northern meals. However, some of the vitamin deficiency was counteracted by native cod liver oil made from stewed fishes' livers.

LIFE for many persons today is so eased by comforts that the chief thought frequently is not for the food which is eaten but for the proper spoon or knife to be used in the eating thereof. In Labrador the question is never how to eat but usually what, and sometimes even whether, to eat. In the words of a liveyere, when the news came that the S. S. *Kyle* on its last voyage north had brought no sugar and only insufficient provisions to supply the people depending on this last boatload of freight for their winter food, "Us in Labrador has to cook what us finds to eat and be thankful us has it."

SINCE THERE ARE FEW STORES IN LABRADOR, THE PEOPLE MUST GO TO THE SEA FOR THEIR FOOD, NOT ONLY AS PANTRY BUT AS HIGHWAY.

PYORRHEA: A Short Story of the Long Tooth

Chapter VII of THESE TEETH OF MINE

THE PYORRHEA GOD OF THE MAYAS, WHO HIMSELF HAD LOST A FEW TEETH, COULD SYMPATHIZE WITH MORTALS. HE AND HIS PRIESTS PRAYED WHILE THE PATIENT FASTED IN SECLUSION FOR TWENTY-FOUR HOURS. AT THE END OF THIS PERIOD THE CURE WAS DECLARED COMPLETE. EVIDENCE OF MAYAN SKULLS, HOWEVER, INDICATES THAT THE CURE WAS NOT ALTOGETHER SUCCESSFUL. (PHOTO, COURTESY DR. H. G. WHITTLESEY AND THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION.)

At this Stage of her Career, Our Heroine was getting a bit Long in the Tooth.—GEORGE ADE in *Fables in Slang.*

By David W. McLean

BARRING disaster at the hands of the villain, a careless automobile driver or an acute infection, every heroine and every hero reaches a time when serious thought must be given to the long tooth. The wise will take preventive measures. Others will simply await trouble. Trouble is at the door, with one foot over the sill, when the gums shrink back and the teeth begin to look unnaturally long.

Diet and back-to-nature faddists claim that the long tooth is one of the results of ultra-civilization, congested city life, white bread, too much meat and a scarcity of vitamins; but prehistoric skulls tell a different story.

From the pre-stone age to date, in all climates and all conditions of living and diet, with or without dental care, pyorrhea has persisted, unconquered. More of it is observed today in its advanced stages than ever before. Is it because more people live to the age when it reaches its height? Perhaps. More of it is discovered also in its early stages. Is it because the symptoms are recognized today but were not detected years ago? Perhaps.

In many young mouths, conditions are present which will in a few years cause pyorrhea. Nevertheless, despite the increasing knowledge and skill of the dental profession, it is impossible in many cases to prevent the disease. Enough time and energy have been spent solving the problem of pyorrhea to build Boulder Dam; and it still requires much hard work.

PYORRHEA'S threat is so general that it behooves every person to have an understanding of the disease and its symptoms. This is not required in order that he may be his own dentist, for the man who pleads his own case in court has a fool for a lawyer, and he who takes charge of his own dental health has an even worse dentist; he needs this understanding because the prevention or arrest of pyorrhea is always a fifty-fifty proposition between dentist and patient.

Two thousand years before Christ the Chinese used arsenic in the treatment of gum diseases. That was 3,600 years before Antony van Leeuwenhoek peered through his home-made microscope at scrapings from his freshly brushed teeth and discovered bacteria; "wretched beasties" he called them. And today, 4,200 years after the Chinese, arsenic is found in arsphenamine, the strong aid against the spirochetes of pyorrhea and Vincent's infection, or trench mouth.

Equally amazing is the discovery that the writers of the late pre-Christian and early Christian era recognized the systemic causes of pyorrhea. In their fantastic and often repulsive prescriptions they attributed the condition to "morbid humors in the blood." When I began the study of dentistry thirty years ago, the disease was due to "gouty diathesis." There is really no vast difference between morbid humors and gout and rheumatism. One marvels that the ancients, knowing so little, could have known so much!

The removal of deposits of tartar from the teeth was advised in the Talmud, and about 1100 A.D. an Arabian surgeon devised a set of fifteen instruments for the purpose. The part

played by tartar in pyorrhea was pointed out in 1728 by the French dentist Fouchard.

The influence of diet on pyorrhea was beginning to be realized in the early nineteenth century when the disease was called "scurvy of the gums," scurvy being a dietary deficiency disease.

Here then were most of the causes of pyorrhea, known in a blind way many years ago. Yet during the past thirty years, as during more than thirty preceding centuries, the healing art has turned from one cause to another, always intent on one and forgetful of the rest. Because one-sided treatment produces meager results, there has been constant study and experiment, a constant advancing of theories. Some of them were fantastic. One writer, during my own time, suggested that infected tooth-picks were a cause of pyorrhea. A sarcastic critic straightway urged all dentists to warn their patients against the pernicious practice of buying second-hand tooth-picks.

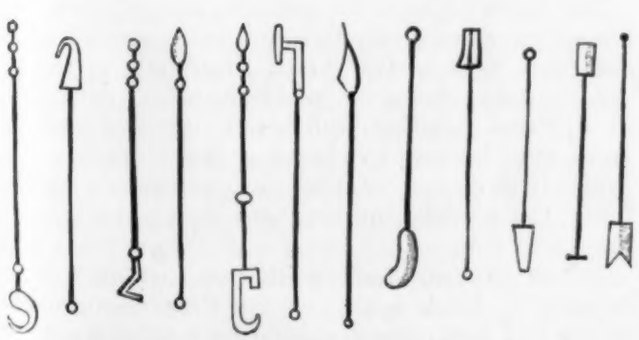
THESE ARE THE WORN MOLAR TEETH OF AN EARLY INDIAN OF THE PACIFIC COAST. SUPPORTING BONE HAS RECEDED GREATLY. (PHOTO FROM THE COLLECTION OF DR. S. R. ATKINSON.)

About fifteen years ago, physicians treating patients for amebic infections of the intestine noticed that when patients were saturated with ameba-killing drugs, their pyorrhea improved greatly. These men examined material from the pyorrhea pockets and found ameba. Now it was all solved! Ameba were the cause of pyorrhea! It became the vogue to have pyorrhea treated by hypodermic injections in the arm; but the results were disappointing. Soon a research man with a keen eye discovered that the ameba actually were eating bacteria! Ameba were then pronounced "beneficent scavengers," and pyorrhea was still a dark mystery; the long awaited "cure-all" was as yet undiscovered. Doubtless the improvement noticed after the ameba-killing treatment was due to improved intestinal condition and improved elimination, a lessening of the "morbid humors in the blood."

A vast amount of time, energy and money have gone into the study of the bacteria found in pyorrhea pockets. If one bacterium could be found which, planted in a healthy mouth would cause pyorrhea, we would have the disease by the tail. Vaccines would soon be available to rout the infection and cure the disease. But the germs found have always been some of the six dozen or more which also reside in healthy mouths. To be sure they swarm through pyorrhetic gum and bone, but only because the gum and bone are already diseased and cannot keep them out.

All of which brings one to the conclusion that pyorrhea is by no means a simple problem. Our final recognition of its complexity is our best augury for the future.

On dignified occasions, pyorrhea is known by its full name, pyorrhea alveolaris. Literally, this means a flow of pus from the alveolar process. The alveolar process is soft spongy bone which grows upward from the jaw to support the roots of the teeth. It disappears after the removal of the teeth and sometimes, alas, before; and were it not for this premature disappearance this story need not be written.



ABULCASIS, AN ARABIAN SURGEON, DEVISED THESE INSTRUMENTS ABOUT 1100 A.D. TO REMOVE DEPOSITS OF TARTAR FROM TEETH. (REPRODUCED FROM GUERINI'S "HISTORY OF DENTISTRY" BY PERMISSION OF THE AMERICAN DENTAL ASSOCIATION.)

Early observers saw a discharge coming from between the gums and teeth, but the cases they recognized were advanced, neglected cases. In most pyorrhea, as it is now known, there is no visible discharge. When there is, it is not related especially to the bone. So the name pyorrhea alveolaris is in slow process of being changed. A list of new names suggested for the disease would appear utterly foreign to a layman. The leading candidate for the title thus far is periodontitis, which signifies the development of disease around the tooth.

The starting place of pyorrhea, to use the common name, is in the periodontal or around-the-tooth membrane, which lies between the tooth and bone. It lies also "between the devil and the deep sea," for in apical abscess it is attacked by infection and disease at the root apex of a dead tooth, and in pyorrhea the attack originates at its gum surface.

Blood vessels enter this membrane at its deep end. They nourish the membrane, which in

FIRST FILM SHOWS BONE OF YOUNG PATIENT AT NORMAL LEVEL. UPPER EDGE OF BONE IS SOFT AND THIN BECAUSE OF POOR NUTRITIONAL CONTROL. FILLINGS AND COMMENCING CAVITIES ARE SEEN. SECOND FILM SHOWS SUPPORTING BONE DESTROYED TO VARIOUS LEVELS IN AN ADVANCED CASE OF PYORRHEA.

turn nourishes the two hard structures to which it is attached, the alveolar process on the bone side and the cementum, or outer layer of the root, on the other. This is significant, for when the membrane goes hungry, so do they; when it is sick, so are they, and when it atrophies and dies, they die with it. The death of the membrane and bone starts at the gum surface and proceeds along the root of the tooth. As the amount of bone supporting the root grows less and less, the tooth loosens and at last is lost.

This state of affairs is brought about by several causes, all interfering with the delivery of nourishment to the membrane. One of the causes of failure to deliver nourishment is lack of nourishment to deliver; that is, a lack of the necessary calcium, phosphorus and vitamins. When diets deficient in these elements are fed to animals a condition identical with pyorrhea develops.

If two neighboring back teeth are badly shaped or do not contact each other smoothly, fibrous food packs between them during chewing and wedges against the gum. If a rough edge of filling or crown presses into the gum like a thorn in the flesh, inflammation starts, the first sign of which is congestion; that is, interference with circulation and with the delivery of the calcium, phosphorus and vitamins present in the blood. Tartar forms on the root, at and under the edge of the gum. More inflammation follows, which in turn produces more tartar. The circulation reaches partial stasis, a medical term for a "traffic jam." Food deliveries are hindered. There is famine in the membrane and famine in the bone. Cells die by the thousands, and the bacteria continue to kill thousands more. The debacle proceeds up the tooth root toward the apex. The tooth looks long and is loose.

"But, Doctor, it never has hurt," the patient claims.

"I know. It wouldn't. Too bad. Too bad. The forceps please, Miss Gray."

Well! the tooth is gone. A few hours more of the dentist's time a few years ago would have corrected that food pocket between the teeth. A few dollars' worth of care now and then and a little of the patient's time would have kept the deposits of tartar off the tooth. But it is too late now. No amount of money will buy the tooth back.

Some patients will do almost anything to save their teeth—after they are lost. Others nonchalantly recall Cousin Susie, who wears false teeth and says they are so much better than her own ever were. Yes? Then so is Uncle John's wooden leg!

And now for a discussion of an interesting and common interference with circulation in the membrane, which is a result of too much biting stress. The membrane acts as a shock absorber between the tooth and bone; it is made up of tiny strong fibers which support the tooth in its socket. Under excessive stress the fibers become overdeveloped, crowding and choking down the little blood vessels which find their way between these fibers. In time the vessels are practically obliterated and circulation is cut off.

Teeth, then, are like people. In time, overwork will ruin them. Overwork occurs when individual teeth are high in the mouth. Nature may have placed them so that they fail to strike correctly in chewing; the dentist may inadvertently have built them too high, or the neighboring teeth may have had soft fillings which wore away too rapidly.

The teeth of middle-aged and elderly persons are often worn flat. It takes more pressure to cut food with a dull tooth than with a sharp one. Again, the worn teeth may bite correctly in the rest position, but when the jaw moves from side to side in chewing, a few teeth take the full pressure of the jaw, estimated to be from 150 to 300 pounds, and they take it day after day.

When several back teeth are lost an added burden of work is thrown on those remaining. If the lost teeth are replaced by bridge work or a partial plate, unavoidable strain is thrown on the teeth that stabilize or support it. All these conditions are causes of overwork.

In some cases, infection is the predominating factor in pyorrhea. Particularly active are the germs of Vincent's infection, or trench mouth. This infection may be mild and chronic in form, or it may become so after the acute condition has yielded to treatment. Such an infection may persist unnoticed for years and finally result in pyorrhea.

Usually several of these factors combine to produce the trouble. Only by attention to all factors of the individual case can good results be obtained; and only by prevention of all these adverse factors can pyorrhea be avoided.

All pyorrheal conditions start with local gum inflammation. The gum becomes deep red or bluish or purplish red and there is swelling of the gum border. The signs are there for any novice to read, if he will but get a mouth mirror and occasionally look deeper than his own smile. I cannot understand why people do not look, once in a while, into their own mouths. Otherwise fastidious persons tolerate in their mouths, in blissful ignorance, not only crude dentistry but inflammations and uncleanness that they would not tolerate anywhere else about their persons. An occasional mouth inspection will often reveal enough to prompt a visit to the dentist.

When a tooth affected by pyorrhea is removed the periodontal membrane and also the pyorrhea disappear. Some pessimistic wiseacre has said that the only cure for pyorrhea is the forceps. The forceps can beat pyorrhea to the identical result!

X-RAY PICTURE OF ADVANCED PYORRHEA. ONE TOOTH, WHICH RECEIVED TOO MUCH BITING PRESSURE OVER A LONG PERIOD OF TIME, IS HELD IN THE BONE BY ITS TOP ONLY, WHILE ITS NEIGHBORS HAVE ABOUT HALF OF THEIR SUPPORTING BONE STILL IN PLACE.

One dentist in discussing pyorrhea at a meeting some years ago had a slip of the tongue which has become historic. He said, "I do not claim that I can cure pyorrhea, but I can prolong it." He was correct at that. All that the dentist could do in those days was to prolong the process by which pyorrhea destroyed the teeth. More can be accomplished today in the battle against this slow and insidious disease than ever before. The best cure, however, is prevention.

A yearly examination by the physician is important in maintaining the general health background. The mouth hygiene program for the prevention of pyorrhea requires that one should have several stiff tooth-brushes at home, so each will have a sufficient time in which to dry out before being used again. A damp brush is flabby.

A patient whose gums bled badly during brushing decided it would be wonderful if she could just have a camel's hair tooth-brush which would not irritate her gums! She searched the city until she found one. When she finally consulted a dentist her gums bled at the slightest touch, even in eating. The tartar deposits were removed, and her teeth were polished vigorously. It took some eloquence to persuade her to brush her gums as well as her teeth with a stiff, hard brush. In two months she could scrub to her heart's content. She admitted that she was convinced.

The tooth-brush should be small. Many are so large they can only be pushed into the mouth and backed straight out again. The family dentist will demonstrate the method of brushing.

Dental floss is seldom desirable, whether or not pyorrhea is present. It does more harm to the gums than good to the teeth.

The teeth should be examined and cleansed by the dentist twice a year, or three or four times a year if there is a tendency to gum trouble. Time and patience are needed, for a thorough search of all surfaces of every tooth for the tiny barnacle-like deposits which form under the free edge of the gum requires from three-quarters of an hour to three or four hours. Cleansing teeth is the most important operation the dentist performs.

There will undoubtedly come a day when it will be possible, by reason of greater knowledge, to make such a combined and successful attack on all fronts that it will rout this stubborn enemy, pyorrhea, in every case. But even when that day comes the best cure will still be prevention, for the infection present in pyorrheal conditions may, through absorption, cause or complicate systemic disease.

[Note.—In the August issue, Dr. McLean's topic will be "Diet and the Teeth."]

EYE DISEASES IN ADVANCED AGE

Chapter XII of THE EYE BOOK

By
Hyman Cohen

IN THE HEAVE AND HOIST OF CHANGING A WHEEL WHICH HAD A FLAT TIRE HE NOTICED THAT THE SIGHT OF ONE EYE WAS SUDDENLY GONE. AN EXAMINATION DISCLOSED A PROFUSE HEMORRHAGE IN AND UNDERNEATH THE RETINA. ELDERLY PERSONS WITH HARDENED ARTERIES SHOULD AVOID STRAIN IN ANY MANNER, HASTE, EXCITEMENT, HEAVY LIFTING AND ALL SIMILAR EXERTIONS.

Part II

WHEN nearsightedness is of high degree, which is a common occurrence, it usually brings about disease changes in the back part of the middle coat, or choroid. This still further impairs the sight.

There is a stretching of the eyeball lengthwise, from before backward, mostly in the rear part, about the optic nerve and in the region of the very sensitive sight spot, or macula lutea, where the eye shell yields most readily. This stretching produces a thinning and wasting of the middle coat. Along with the stretching there is a mild inflammation which spreads to the overlying nerve coat and destroys the most important visual elements, the rods and cones. The inflammation releases a great number of larger and smaller opaque particles, threads and shreds, which enter and float about the jelly-like substance that fills the back of the eye. These particles are called floaters and are wanderers imprisoned inside the eye, diminishing vision. Hemorrhage occurs, and sometimes the retina becomes detached or pushed away from its bed and is so made useless.

Now all the fears about the fate of eyes that are subject to progressive myopia come true. The sight is much obscured and decreases as time goes on. When the sight spot is seriously involved, direct vision is almost abolished and near work becomes impossible. Hemorrhage in the same region has still worse consequences. Should detachment of the retina occur, the sight of part of the eye on one side or the other, above or below, is gone. Sometimes the detachment becomes total.

Once the condition of extreme nearsightedness is established, there is no satisfactory treatment. However, much can be done in the way of prevention in the early stages when foresight and care will avert the dire consequences.

THE RETINA, a netlike structure, covers the inside of the eye shell in the manner of a fine silken fabric covering the walls of a room. Only it is not glued or grown to the spherical inner wall of the eyeball; it merely rests against it, held in place by the contents filling the eyeball.

The retina is a magic curtain, the great visual catch-all. Its hundreds of nerve strands, like visual hair, behold all happenings within their compass and then twist into one braid of nerves that carries the sights beheld to the brain. The retina is a delicate thing, has to serve many years and is subject to all the commotions of life, the misbehaviors of the person it serves and of defaulting organs and functions here and there

in the body. No wonder it sometimes is hurt. It is subject to several well recognized types of disease, one of which is retinitis albuminurica. This occurs when a man gets on in years and has eaten and drunk overmuch. The kidneys try hard to remove the excessive waste from the body. The job is too difficult, and the kidneys begin to fail. The blood vessels feel the strain of imperfectly functioning kidneys and are further irritated by poisonous substances in the blood and body fluids, by many influences such as heredity, worry and the pell-mell strain of "go-getting." The arteries harden, thicken and weaken, and arteriosclerosis is established as a part of the decay of today's rampaging civilization.

In the retina, where the blood vessels can be seen and studied, these changes are sometimes observed sooner than elsewhere in the body, often even before the general blood pressure mounts.

With this condition in the retina there is an inflow and deposit of the serum from the blood between and underneath the fine nerve fibers; the lustrous sight curtain becomes underslung here and there with grayish yellow patches. Most of the deposits are found in and about the sensitive sight spot, where they form a sort of rosette somewhat like the crown of a sunflower. Often the weakened walls of the arterial blood vessels break and there are hemorrhages which further impair the sight.

A certain amount of arteriosclerosis is natural in advanced age; but when it is pronounced, it is of foreboding significance for the eye and for the general health and tenure of life. In such cases an examination of the backgrounds of the eyes is of great diagnostic help to the general practitioner.

WHAT can be done? Whatever can be done should be done beforehand, when one still has youth and the good sense to keep it. All things should be done in moderation; the banishing of haste and hurry is the magic recipe of peace and equanimity. Once the condition is established, the best treatment is a suitable diet, good elimination, no strain of any kind, frequent examination of the eyes and the relief of strain by absolutely accurate glasses.

Syphilitic retinitis is another heavy, sight-erasing footprint of the old scourge, syphilis. It occurs both in acquired and in hereditary syphilis and may come on relatively early in life. A murk of red dust descends on the clear, jelly-like substance, the vitreous humor, that fills the back part of the eye shell. It reminds one of the "brimstone and fire" rained on Sodom. Patches of the retina waste into dull grayness. Dark spots of degenerated eye pigment group here and there like dead firebrands after a conflagration. The wasting, or atrophy, may extend to the optic nerve. The sight is obscured and may suffer greatly. Timely treatment with arsphenamine and other antisyphilitic remedies is of first importance.

In diabetic retinitis some cells and parts of the pancreas fail in their function; the blood becomes overcharged with sugar in a form that the body cannot use; every bodily cell feels a strange, unfriendly substance nosing into it by means of the fluids bathing it. Among the many instances of harm the body suffers there is also injury to the eye.

In the retina there are buttery spots and patches which impair the sight; hemorrhages occur, and the evil of darkness gains over the good of light. Changes in the refraction and the frequently associated cataract make the vision still worse. To relieve the eye, the diabetes must first be treated.

HEMORRHAGE into the retina occurs mostly in arteriosclerosis, with or without the presence of other disease. Sometimes the hemorrhage happens of itself; the weakened walls of the blood vessels "give," and the blood bursts forth. More often it is due to some unusual strain and exertion. Occasionally it occurs in certain cardiac conditions and in blood disease.

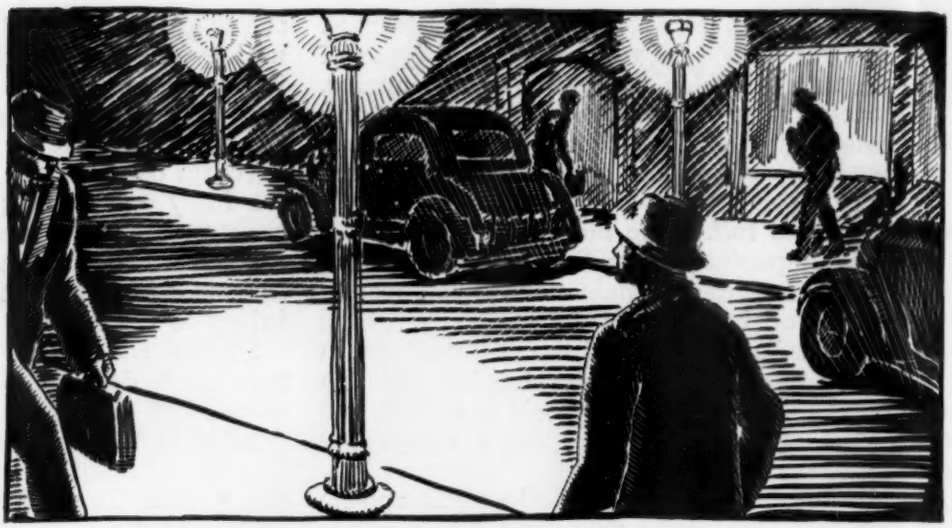
The instances and provocations are many. A physician, well along in years, was changing a wheel which had a flat tire. In the heave and hoist of making the change he noticed that the sight of one eye was suddenly gone. An examination disclosed a profuse hemorrhage in and underneath the retina.

Unfortunately there is no cure for this condition. Elderly persons with hardened arteries should avoid strain in any manner, hurry, haste, excitement, heavy lifting and exertions of similar type.

The retina can perform its function only when it stays in place against the middle coat of the eye. When a part of it is pushed or pulled away from its bed, that part dies a gray death and becomes useless. A partial detachment may become total. Collections of serum or blood behind the retina, or tumors, push it away; inflammations inside the eye produce contracting bands that pull it away. One of the main causes of detachment is extreme nearsightedness, in which the jelly filling the eye becomes liquefied and fails as a support to keep the retina in place.

In this condition, too, strain should be avoided. In small detachments caused by up-pushing fluid, rest in bed may bring about reattachment. There are operative procedures. If the detachment is due to a tumor, the eye must be removed. The time to save any eye is before it is hurt.

Glaucoma, or hardening of the eyes, is one of the tragedies of the later periods of life. It is a frequent, extremely serious, painful, long lasting and blinding disease. Many bodily condi-



AMONG THE EARLIEST SYMPTOMS OF INFLAMMATORY GLAUCOMA ARE OBSCURED VISION, LIKE A CLOUD BEFORE THE EYES, OR RAINBOW COLORED RINGS ABOUT LIGHTS.

tions that are difficult to control are responsible for its occurrence.

The responsibility for its being allowed to progress to the stage of great suffering and loss of sight must be placed, as the eye physician can amply affirm, on the lack of widespread information as to the meaning of the early symptoms and the consequent loss of time before aid is sought. That lost time means lost sight is truer in glaucoma than in any other eye disease.

Glaucoma is more than a personal affliction; it is a national and sociologic problem, considering its ravages and the blind derelicts it leaves behind. Surely, all that can be done by means of informing the public as to its early symptoms and subsequent control constitutes the first step in halting it.

There are two types of the disease, depending on the mode of development. Primary glaucoma is the type of the disease that always involves the two eyes, although not always at the same time. It is due to general bodily disturbances of varied and complex origin. No matter what the remote causes are, the immediate cause in the eye, in all varieties and types of the disease, is always an increase in the pressure or tension inside the eye, a condition which may be likened to that of an overdistended toy balloon. In the case of the eye it is the fluids contained in the eye that distend it; it is not elastic and does not yield, and many of its delicate structures and fine relationships are destroyed by the heightened tension.

THE eye is a hollow shell mostly filled with two fluids, one watery and one jelly-like. Because it is inelastic, it can hold only a certain amount of fluid and no more. In health the inflow, coming from the blood, and the outflow, the drainage, take place through the angle of the front chamber and are nicely and efficiently regulated. The tension is maintained at normal. In glaucoma the avenues of drainage become blocked or clogged. As a result the amount of fluid inside the eye increases, the tension rises, the structures in front of the eye that conduct the light are pushed forward and their transparency is injured. The fibers of the retina are compressed and become atrophied. The optic nerve in the back part of the eye is also pressed on, suffers still more injury and becomes wasted. The disk, or nerve head, anatomically the weakest spot in the back of the eye, is forced back and has the appearance of a pit made in dough with the finger. When this process of pressure and wasting is not halted, blindness results.

But nature, even in its adverse moods, does not fail to give warning. The process in most instances begins slowly and continues by stages and degrees, producing mild, warning attacks, which are relieved at intervals, as if to say, "Well, this has stopped now, but it is going to happen again. You are in for it. Now is your chance; do something meanwhile to halt it if you know what's good for you."

According to the nature of these attacks the eye physician recognizes two types of primary glaucoma. One is accompanied by redness of the eye and is called acute inflammatory, or congestive, glaucoma; with the other, glaucoma simplex, otherwise known as chronic simple, or noncongestive, glaucoma, there is no redness.

IT IS of the greatest importance to recognize the earliest symptoms of an attack in the first stage of inflammatory glaucoma. They are obscured vision, like a cloud before the eyes; rainbow colored rings about lights, like those about a street lamp in a fog; a dull headache, or a feeling of tenseness in the eyes, resembling the feeling in an overfilled bladder.

At first these attacks come at intervals of a month or two and last several hours, after which the eye seems all right again. Later they become more frequent until they occur daily and last a good part of the day. At about this time it may be noticed that an increasingly stronger reading glass is required because the accommodation is being gradually impaired.

This stage may last weeks or years until it is noticed that the sight, even between attacks, is not as good as it used to be. That means that definite damage has already been done, that the stage of warning is at an end. Then comes the next stage of the disease with its terribly punishing pain, which involves the entire side of the head and should not be taken for a bad headache. There is also a dusky redness of the eye. Then calamity is lurking close and ready to leap on the eye. Before that happens, one must act.

Such symptoms as dimness of sight, colored rings about lights, a feeling of tension in the eye, or a headache sharpening into pain are danger signals. One should not diagnose one's own case and imagine that the dimness of sight is due to one condition or another and thus lose precious time. Nor should one waste time with one pair of glasses after another, or lay the trouble to mere headache or nerves. An eye physician should be consulted without delay. He will diagnose the case and do everything possible to lead the patient away from the oncoming darkness.

This message should be shouted from the housetops, but we are human and neglectful with all sorts of cares and circumstances, and the second stage comes on. It is precipitated by some upset in the general circulation, causing congestion in the eye and great pressure inside it. This upset may be due to depressing emotions, nervous irritability and the disturbances incident to the menopause, or change of life.

VIOLENT pains suddenly set in, spreading from the eye to the head, ears and teeth. Sight becomes so dimmed that only hand movements can be noticed. The eyelids are swollen; the eye is darkly red. The cornea is cloudy, and the pupil becomes large and immobile.

Now the attacks last a few days. When they come again, the pain may not be so violent; but the sight decreases steadily and never again returns to what it had once been because of the atrophy of the optic nerve that has meanwhile taken place.

It is still time to save the remaining sight and to prevent much further suffering, if the nature of the disease is recognized. Frequently the pain is taken to be that of mere headache, and the redness of the eye is explained away as being due to a cold or some other eye condition. These are costly, irreparable mistakes. There is a perniciously acute form in which the sight may be destroyed in a few hours.

If diagnosis and proper treatment are not secured, the truly dolorous third stage, absolute glaucoma, is established. The eye is blind. About the cornea there is a darkly red wreath of blood vessels; the eye is as hard as stone, and as further punishment, attacks of pain still sometimes occur in the blind eye. Nothing can be done now, except to remove the eye if it is painful or if some other complication enters.

One almost shrinks from detailing so much suffering, but there is still more that must be told. If inflammatory glaucoma is a red torturer and sight destroyer, glaucoma simplex is a thief in the night. It is in a sense the more dangerous form because it comes on gradually, progressively, silently, without warning pain or inflammation. Dimming and gradual loss of sight is the only thing noticed. Both the direct, straight ahead vision and the side vision are affected, so that the patient cannot get about by himself safely.

An early diagnosis is of still greater importance in this type of the disease because the warning signals are not so many and pronounced and there are no external manifestations. This is all the more reason to be on guard. Of course the symptoms of the early stage of the congestive type, such as dimness of vision, rainbow rings about lights and a feeling of tension in the eye, are present here as well. The sufferer must not try to diagnose the trouble himself; he should find out to what it is due without delay; he should not bother with glasses; he should consult an eye physician, for that is the road to take to save the sight.

FINALLY, what can be done to prevent the development of glaucoma, to avert its progress and bring relief, to prevent blindness? To prevent the occurrence of glaucoma is the most difficult phase of the entire problem. Not all the underlying factors are controllable. If one lives into the later decades, the eye is bound to shrink somewhat in size, and that favors glaucoma. A familial tendency cannot designedly be eliminated. The farsighted eye, because it is short and crowded on itself, favors the disease. The inflammatory type of the disease occurs twice as often in women as it does in men.

But some of the exciting causes are amenable to regulative care and are favorably influenced by early and proper treatment. The circulatory disturbances incident to the menopause can be minimized by proper hygiene, physical and mental. The same applies to the nervous systems of women. Their greater susceptibility to states of emotional depression disturbs the circulation in the eye and is the cause of causes. The remedy here is not to "let go," but to keep the tone of the physical and emotional life steadily level. This is sometimes a trying task; but when it is accomplished, it is a great gain.

Once the disease has set in, as manifested by the early symptoms, what can be done then? I have already emphasized early diagnosis and the avoidance of pitfalls. Once the diagnosis is made early and one is under the proper care, half the battle is won. The problem now is to arrest the progress of *(Continued on page 666)*

Why the Baby Has Eczema

By
DENNIS KELLY
and
MYRTLE MEYER ELDRED

Part III

IT IS necessary to keep constantly in mind the constitutional make-up of the child and the various ways in which his skin may be rendered sensitive. With this essential background one arrives at the crux of the matter, the diet, which is the most frequent cause of most infantile eczema. One feels that this subject deserves unusual emphasis. Despite the simplicity of the statement, it comes as a shocking surprise to most mothers that the food the child is eating may be causing his misery. If it were a strange food, it would be easier to convince her of its guilt, but that breast milk or "good cow's milk" or the familiar egg may be responsible for the rash is utterly foreign to her conceptions.

Breast milk can cause eczema in one of several ways. The mother herself may be sensitive to certain protein foods, and these irritants may reach her baby through the breast milk. It is more than possible that she is not aware of her own reaction to protein foods such as milk or eggs and includes them liberally in her diet during lactation.

Overfeeding provokes many an unnecessary siege of eczema. An excess of any food, even breast milk, puts an unusual burden on the digestion and must be considered capable of mischief. Overfeeding is commonplace today because of our worship of the weight chart.

As long as mere weight in pounds is accepted by mothers as a criterion of health, the roly-poly baby will be a maternal ambition. If a mother can be made to understand that stuffing a baby in a frenzy to see him gain weight may be directly responsible for his misery, the cure should be simple.

Overfeeding of rich milk has in many instances been proved solely responsible for the development of eczema. A baby may have inherited an intolerance for fat; his digestion may be crippled by being called on to assimilate unusual burdens of rich milk, or since fat is the last food element to leave the stomach, its combination with the proteins may inhibit their digestion. This would throw the proteins free and undigested into the blood stream.

A RICH breast milk is usually dependent on the diet and on the mother's habits. Inactivity and a burden of rich foods load her system with fats which are in turn passed on to her helpless infant. Consequently the baby gains at an impressive rate and advertises his disabled digestion by a moist, oozing eczema.

Nursing the baby whenever he cries for it may keep his digestion in such a turmoil that it will eventually become weakened and exhausted. One must be aware of the natural processes of digestion in order to understand this statement.

OVERFEEDING, WHICH CAUSES MANY AN UNNECESSARY SIEGE OF ECZEMA, IS COMMONPLACE TODAY BECAUSE OF OUR WORSHIP OF THE WEIGHT CHART. IF A MOTHER CAN BE MADE TO UNDERSTAND THAT STUFFING A BABY IN A FRENZY TO SEE HIM GAIN WEIGHT MAY BE DIRECTLY RESPONSIBLE FOR HIS MISERY, THE CURE SHOULD BE SIMPLE.

Digestion begins with a thorough acidification of the food in the stomach. Once acidified, the food, element by element, leaves the stomach in regular rhythms. First the water in the food passes into the duodenum, or small intestine, followed by the carbohydrates, the proteins and finally the fats. Because the carbohydrates, that is the starches and sugars, undergo a more rapid digestion, they are often considered "easier to digest." Infant foods overladen with starch or sugar produce energy and fat more easily than do foods that contain a greater proportion of protein and fats. This does not signify, by any means, that the starchy and sugary foods are more desirable for infant feeding.

Because it takes longer for the stomach to reduce proteins and fats to assimilable nutritional elements, sufficient time must be allowed for a leisurely and satisfactory digestive process. It is hardly possible for this process to be complete in less than three hours. With most babies the four hour interval between meals is conducive to a better digestion. The rate at which the stomach acts to acidify and empty itself of its contents is contingent primarily on the child's digestive apparatus.

Mention has been made of the baby's tendency to suffer irritation from foods which are being eaten by the mother. One mother found that her consumption of chocolate caused an eruption on her baby's skin. Another mother, accustomed to generous helpings of cream on cereal and stewed fruit, began to suspect after some analysis of her diet that there might be some connection between this habit and her baby's eczema. She first omitted eggs from her diet and noticed a slight improvement. She then began substituting skimmed milk for cream and later eliminated milk entirely. A rapid improvement in her baby's rash was the result.

Although cow's milk is generally considered the food next best to mother's milk in infant feeding, yet its effect on the child may be far from desirable. When the child has a really definite idiosyncrasy toward milk the feeding is followed by immediate symptoms of distress. The mother tells her doctor that the baby vomits immediately after taking milk or that he has persistent diarrhea. She comments on his dislike for milk and his tendency to break out in a rash or to suffer from hives. These are all sign-posts which point to the baby's intolerance for milk, especially in the form in which it is being fed.

A mother who was anxious to wean her baby from the breast was perplexed because she could not make any appreciable headway, though the child was well beyond the age for

weaning. "My difficulty," she explained, "is to get him to touch milk. Every time I give him a few swallows his chin and cheeks turn bright red with some white spots on them. Can you tell me what would cause his face to be splotchy after just a few sips of milk?" And then she added an illuminating statement, "He seems to have a natural dislike for milk!"

Farm mothers are often driven to using the milk of Guernsey or Jersey cows because of the possession of these herds. The rich milk may at first cause large and satisfying gains in weight, and it is only when baby loses his appetite or when a rash develops that the disadvantages of such milk are brought to light. Rich milks are especially apt to be irritating, just as are rich breast milks.

MANY children possess an idiosyncrasy toward eggs. One spoonful of egg served alone or even in a custard or a pudding may be all that is necessary to cause immediate breaking out of hives or vomiting of all the food ingested.

Egg white, which is "pure protein," may prove more irritating than the yolk. The baby may have a sensitivity to egg or the egg may be supplying the diet with an excessive amount of protein. The baby's protein needs are satisfied by from 1½ to 2 ounces of milk for each pound of his weight. If a baby shows any symptoms of allergy it is inadvisable to exceed these limits. Egg white as an additional source of protein is seldom necessary the first year. Egg yolk is a desirable addition to the diet the sixth or seventh month as a means of supplying additional iron to the baby. The mother's habit of deciding that baby needs an egg in his diet and then willy-nilly feeding him a whole egg is often responsible for the initial upheaval which renders future egg feedings hazardous.

Cereals, which are a combination of carbohydrates, proteins and minerals, are often definitely irritating to the allergic child. All cereals are capable of causing eczema, but wheat and oats are most often indicted and found guilty. Wheat and oats are the first cereals offered the baby, however, and he may have developed a sensitivity to them because of persistent overfeeding.

Mothers often have faulty conceptions of a child's capacity for food. While one baby may dine frugally on one or two tablespoonfuls of cereal, another baby of the same age may be expected to wrestle with a cupful at one or even two meals.

The sensitivity may, of course, be a gradual development; at first the baby may not show any intolerance for cereal, and later a rash may develop because of it. Since cereal should act as a laxative, it is probable that babies who become constipated after its inclusion in the diet may be showing their early sensitivity in this manner.

During the child's second year there is a great temptation to overwhelm him with starchy foods. He is offered cereal, numerous and uncounted crackers, bread and butter, donations of cookies from generous neighbors, potatoes, bananas and possibly candy. Such excessive quantities of the carbohydrate foods cannot be digested without trouble.

Vegetables are a combination of carbohydrates, protein and minerals. Despite their protein content, they are seldom offending foods. More often they are exactly the mineral-rich, bulky food needed by the eczematous child as a balance for the diet overweighted with fats, sugars and proteins. But because almost every food has at some time or another been known to influence eczema adversely, it is wise to mention those vegetables which various authorities list as possible irritants.

Peas and beans, because of the large content of protein, have been known to upset allergic children. Spinach has a rather bad reputation. This may mean only that spinach may have enjoyed too early an inclusion in the infant's diet or may have been fed too generously. It is not uncommon for infants to show an early and persistent distaste for spinach, and many on being forced to swallow it have promptly retaliated by vomiting or by the development of warm, red spots where the offending food has touched. Hives have been known to follow spinach feeding.

Tomatoes may cause a similar reaction. Spinach, tomatoes, strawberries and egg yolk are all rich in iron, and while there is no clinical evidence to confirm this casual observation, it is interesting to note that among the fruits and vegetables and the protein foods these four are most frequently the chief offending foods in their group.

MEAT, a complete protein, is seldom blamed for allergic reactions. Few babies receive meat before the second year and not even then in large amounts. Meat is easily digested, even when it is swallowed half masticated. Indigestion from the carefully scraped or well chopped portions of meat fed to infants would be exceptional. It seems probable that with the exception of pork or veal, which are difficult to digest because of their unusual fat content, meat is seldom a food of which to be suspicious.

Fruits are most infrequently listed. Occasionally a child with multiple sensitivities to various foods may react to the early feeding of orange juice, raw apple or pear. Ordinarily both orange and tomato juice, with their high vitamin C contents, are needed in the diet of the eczematous child, and their inclusion is an aid rather than a deterrent to his improvement.

[NOTE.—This series of articles will be concluded in the August issue with a discussion of the specific external causes of eczema.]

ADOLPH BEILIN
UP-TO-THE-MINUTE SURGERY
THE SURGICAL "TEAM"
LISTER INTRODUCED ANTISEPSIS INTO SURGERY. THIS CENTURY HAS METAMORPHOSED ANTISEPSIS INTO ASEPTIC SURGERY, OR SURGERY FREE FROM GERMS. BUT THE MOST NOTABLE ACHIEVEMENT OF TODAY IS THE ORGANIZATION AND PERFECTION OF THE SURGICAL "TEAM," A HIGHLY INTEGRATED SYSTEM FOR COMPLICATED OPERATIONS.
THE STONE AGE OF SURGERY
AN AMPUTATION IN 1793
BEFORE THE TIME OF LISTER, PATIENTS ENDURED THE PAIN OF OPERATIONS WITHOUT ANY KIND OF ANESTHESIA.
(FROM A PRINT BY ROWLANDSON)
A HOSPITAL BEFORE THE TIME OF LISTER
A PATIENT IN BED WITH A CORPSE. THIS SORT OF THING OCCURRED IN THE CROWDED CHARITY HOSPITALS OF EUROPE TWO CENTURIES AGO
STAPHYLOCOCCUS FROM AN ABSCESS (ENLARGED 1,000 DIAMETERS)
STREPTOCOCCI FROM BLOOD POISONING (ENLARGED 1,000 DIAMETERS)
A SET OF SURGICAL INSTRUMENTS OF THE EARLY EIGHTEENTH CENTURY

LORD LISTER (1827-1912)

A Great Physician, Who Founded the Science of Modern Surgery

By ADOLPH BEILIN

TO APPRECIATE fully the amazing significance of Lister's work, it is necessary to recall the status of surgical practice and the mode of hospitalization which existed up to the year 1864. In that year the results of Pasteur's work on putrefaction became known to Lister, and this information gave him the answer to the problem that puzzled him. Through its help he discovered the paramount importance of microbic action and its direct application to surgery. By this discovery he made possible the transformation of the "stone age of surgery" into the era of the modern operating room and its miracles of scientific exactitude. It enabled him to prove that infection in wounds is, like putrefaction in beer and wine, caused by the presence and action of germs.

Joseph Lister was born of Quaker parentage in Essex, April 5, 1827. He lived until Feb. 11, 1912. He was successively professor of surgery in the universities of Glasgow (1860) and of Edinburgh (1869) and in King's College of London (1877). Today the name of Joseph Lister is known throughout the civilized world. It has fascinated the imagination and aroused the wonder of mankind. Those who knew him loved him for his humaneness and forbearance, his gentleness and determination, his ingenuity and supreme conscientiousness. His patients "adored him," for "his gifts of heart and head were in equal measure."

The name of Joseph Lister is rendered immortal chiefly for his discovery of the cause, prevention and cure of wound infection. He proved that germs either enter an open wound from dust in the air or are carried there by infected instruments or soiled bandages; and he established antiseptic principles in operations and in the treatment of infections which enabled surgery to take an astonishingly great stride forward. As a result of Lister's discovery the science of medicine has broadened to an illimitable scope. It is probably no exaggeration to say that the principles of antiseptic knowledge that Lister evolved have saved more lives than have been destroyed in all the wars in the world's history.

Lord Lister was truly a great man, a great physician and a great surgeon. In recognition of his worth, innumerable honors came to him from all over the world, and in 1897 the title of baron was formally bestowed on him.

Acme

PREMATURELY BORN BABIES IN CHICAGO WILL BENEFIT BY THE NEW INCUBATOR AMBULANCE SERVICE AND MOTHER'S MILK STATION STARTED BY THE BOARD OF HEALTH. BOTH ARE FREE.

A CURBSTONE DRUG STORE OF MODERN PERSIA SHOWS THE CHEMIST AT WORK IN THE CROWDED STREETS OF TEHERAN.

Ewing Galloway

Acme

C. F. RUSSELL, SIGHTLESS GOLFER OF DULUTH, MINN., SHOOTS BETWEEN 75 AND 80 STROKES ON A 69 PAR COURSE. A CADDY DIRECTS HIM.

A THEATER IN WHICH COMPLETE EQUIPMENT FOR THE HARD OF HEARING HAS BEEN INSTALLED HAS BEEN OPENED IN CHICAGO. BONE INDUCTION OSCILLATORS REPLACE THE EARPIECES.

Acme

Century

MIRRORS AID IN THE CORRECTION OF SPEECH DEFECTS AT THE TEMPLE UNIVERSITY CLINIC.

Keystone

ABOARD THE "RHINOCEROS EXPRESS" IN MALARIA SWEPT SECTIONS OF ABYSSINIA, EUROPEAN PASSENGERS RELAX UNDER HEAVY MOSQUITO NETS. THE TERRIFIC HEAT INCREASES THE CHANCES OF INFECTION.

Century

IN FAR-OFF PERSIAN VILLAGES, BREAD MAKING IS A COMMUNITY AFFAIR. THE HOUSEWIFE SHOWN HERE IS PREPARING TO WITHDRAW HER FRESHLY BAKED BREAD FROM THE STONE OVEN UNDER THE EARTH.

SINCE HARDLY A MAN LIVES WHO DOES NOT RELISH A "PINCH" OF SALT SEASONING IN HIS MEAT OR VEGETABLES AT MEALTIMES, THE DRILLS AND SHOVELS OF THE LABORERS IN THE SALT FIELD NEAR MANISTEE, MICH., ARE KEPT BUSY.

THE REMARKABLE AIRPLANE

JO-JO and Jim, the Cassidy twins, gobbled up their bread and jam, gulped down their soup and stuffed in the cake. The two glasses of milk on the table remained full to the brim.

Jo-Jo shook her brown curls and turned up her bit of a nose. "Milk," she muttered. "Ugh!"

Jim turned a freckled, jam smeared face toward his twin sister. "Milk!" he exclaimed. "Ugh!"

"Surely now, you'll drink your nice fresh milk," urged Mrs. Cassidy, hovering anxiously near the table. "I've heard that it has all sorts of quare little cratures hid in it that make you grow strong and healthy."

"If you mean vitamins," Jo-Jo said loftily, "we know all about them."

"We've had them in school," Jim told his mother. He scrambled down from his chair.

"But we don't like milk," Jo-Jo continued, "so that's—"

"—that," Jim finished for her. "Come on, twin, if you want to see Oscar's new airplane."

"Surely now, be careful, my darlin's. Don't go getting into any contraptions of Oscar's. The man's half crazy, I'm thinking."

But the twins were already out of hearing. As they neared Oscar's barn the twins looked in vain for their friend the inventor. Nothing could be seen but a huge bullet-shaped airplane which looked like a barrel on wheels. Methuselah, Oscar's great gray cat, purred and rubbed his head against Jim's leg.

"Oscar! It's us, Jo-Jo and Jim," shouted the twins. "Come on out, Oscar."

"So you're here again," growled Oscar, climbing out of the weird machine. But the broad smile on his grease streaked face showed how glad he was to see them. Methuselah cuddled down on Oscar's shoulder.

"Please, can we get in the airplane today? Just for a teeny minute," pleaded Jo-Jo.

"We won't hurt anything," begged Jim.

"Well, maybe, if you promise not to touch anything. You see, it would be mighty dangerous if this thing got started. I have her headed straight for the Milky Way, and I expect—" Oscar lowered his voice and said confidentially, "I expect to take off in her tonight."

"Oh, Oscar! Really?" cried Jo-Jo. "You mean this ship can fly clear to the Milky Way and back?"

"Well, I dunno about back. But she'll get there anyway." Oscar grinned at their anxious faces. "Never you mind about old Oscar. I'll get back all right."

"Let's get in," Jim said, climbing eagerly into the driver's seat. "Be careful, Jo-Jo," he warned

her as she clambered after him. Breathless and wide eyed, Jo-Jo plumped down beside him.

"You see that little lever there?" explained Oscar. "All I have to do is push that to the right, and off I go. What's the matter, Methuselah?"

Methuselah was behaving strangely, marching up and down, arching his back and spitting at the airplane. It was clear that he disliked to see Jo-Jo and Jim sitting in the driver's seat. Suddenly with a spring he leaped straight for Jim's head.

"Hey!" shouted Jim, raising his arms to fight off the ball of fur and fury.

"Look out!" screamed Jo-Jo. "The plane is moving."

It was true. Jim's arm had moved the lever to the right!

"Push that switch!" roared Oscar, running up and down. "Stop it!"

Jo-Jo tried to reach the switch, but Methuselah, now thoroughly frightened, clung to Jim, clawing and biting him. The two swayed back and forth so violently that Jo-Jo could not get hold of the little lever that meant escape for them. By this time the plane was off the ground and was headed out toward the Milky Way.

Bump!

"Are you hurt, Jo-Jo?" cried Jim as the plane came to an abrupt stop.

"No, are you?" Jo-Jo replied breathlessly. "Where's Methuselah?"

The big gray cat, heedless of the trouble he had caused, had sprung out of the machine and was making straight for the white roadway.

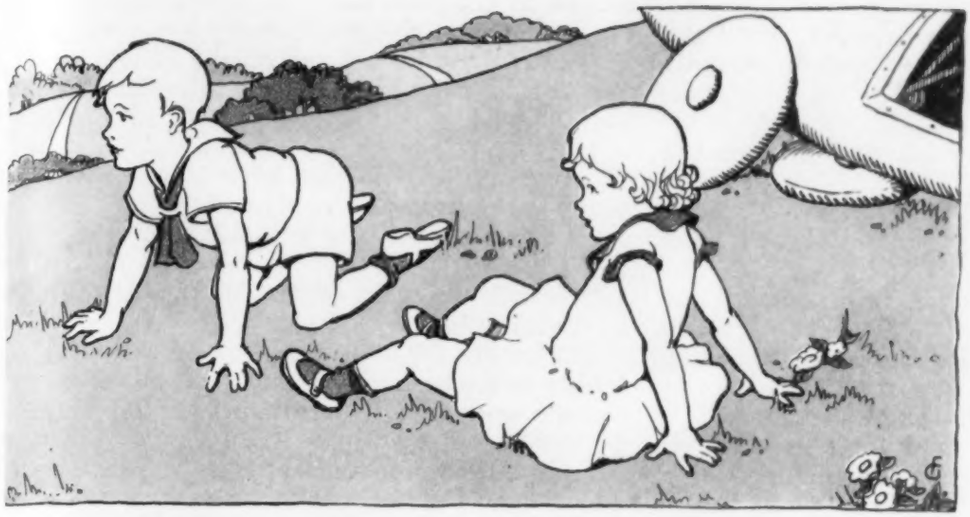
"Look at that sign-post, Jim!" exclaimed Jo-Jo. "THE MILKY WAY! We're really here!"

The twins tumbled out on soft green grass. As far as they could see, the meadows stretched in big green squares, divided by long white roads.

"Look! Look!" cried Jim.

Twenty milkmaids with foaming pails of milk came hurrying toward them.

"Welcome to the Milky Way," they said in chorus. "Let us escort you to the Chief."



By
SARA
SLOANE
McCARTY

"Jo-Jo," whispered Jim, "they look exactly like the milkmaids in the operetta at school."

"Sh!" Jo-Jo whispered back.

The palace of the Chief Milkman shone glittering and white as milk. The inner walls were creamy white and golden. With eyes dazzled by the dancing lights and gleaming walls the twins reached the white throne.

"Ah!" said the Chief Milkman. "Visitors!" He regretfully set down a huge bottle of milk. "Nothing like it for a snack," he remarked, smacking his lips. "Have a drink!"

Two servants approached, carrying two large glasses.

"They look just like our milkman at home," Jo-Jo whispered to Jim.

"Fill up the glasses," urged the Chief Milkman jovially. "Let us drink to the Milky Way, the Milky Way to Health!"

"Excuse us, please," Jo-Jo began, "but we don't—"

"—like milk," Jim finished it for her.

Things happened so fast that the twins were left gasping.

"Treason!" screamed the two milkmen.

"Treason!" howled the guard.

"Treason!" squealed the milkmaids, scurrying in all directions.

"What's the matter?" Jim ventured to ask.

"They don't like milk," muttered the horrified milkmen.

"They don't like milk," echoed the guard.

"They don't like milk," whispered the milkmaids, terror-stricken.

"To the dungeon, earthlings!" ordered the Chief Milkman.

The dungeon proved to be a cheerless room with barred windows. The twins sat down disconsolately on round milking stools. A sudden scratching and scrambling made Jo-Jo jump.

"It's Methuselah!" she cried joyfully, as the huge cat sprang in through the barred windows. "Oh, Methuselah, I'm so glad to see you." And Jo-Jo stroked the gray fur while big tears ran down and plopped on the cold floor.

"Milk!" shouted the officer of the guard.

"Milk!" echoed the second in command.

"Milk!" bawled the Keeper of the Dungeon.

The Keeper set two large glasses of creamy milk before the twins and departed.

"We might as well drink it," Jim sighed.

"I couldn't," sobbed Jo-Jo. "Here, Methuselah, you drink mine."

Quick as a wink, Methuselah's red tongue lapped it all up. He began to purr loudly.

"You are summoned before the Chief Milkman," announced the Keeper, gathering up the glasses.

"Hooray!" cried Jim. "Maybe he's changed his mind."

"Well—," rumbled the Chief Milkman when two sorry looking twins reached his throne. "How do you like the Milky Way?"

"Say 'It is very good,'" growled the Keeper, giving Jim a sharp poke in the ribs.

Jim hesitated.

"Say it!" commanded the Keeper more fiercely.

"It—is—very—good," Jim repeated without enthusiasm.

"And you, Miss Jo-Jo?" The Chief Milkman drew his black brows into a heavy frown.

"Oh—I—I—"

"Say 'It is very good,'" prompted the Keeper, giving Jo-Jo a tiny poke.

"I won't," Jo-Jo said.

"Back to the dungeon!" ordered the Chief Milkman. "Give them nothing but milk. I command that they repeat two hundred times a day, 'Milk is very good.'"

"Now see what you've done," cried Jim when they were alone. "Why didn't you say 'It is very good'?"

"Because it isn't. I hate milk!" flared Jo-Jo. "You said you liked it, and you know that isn't true."

"The queer thing is," mused Jim, "I really do like it—a little. At least," he hastened to add, "it's better than nothing. Take some next time. You musn't starve, you know."

The second day dawned brightly outside the dungeon. Through the iron bars Jim could see cows nibbling the long grass and milkmaids scurrying about with gleaming pails.

"Here comes Methuselah! He's simply bulging. Bet he's lapped up all the milk in the country."

"No such luck," sighed Jo-Jo.

"Wish they'd hurry with breakfast. I'm hungry as a wolf."

"Oh, Jim, do you think we will ever get home to our dear mother again? Just to think about those beautiful soft boiled eggs and the crisp toast with butter makes me cry."

"Milk!" shouted the officer of the guard.

"Milk!" echoed the second in command.

"Milk!" bawled the Keeper of the Dungeon.

"It sounds like a song," Jo-Jo giggled. "Milk! Milk—Milk—Milk. Milk! Milk—Milk—Milk."

"Bow, you rascals!" cried the Keeper roughly. "On your hands and knees and repeat after me,

Milk makes me strong and wise;
Milk gives me sparkling eyes;
Milk is the king of food;
Milk is so very good!"

This ceremony completed, the Keeper set two large glasses of cool creamy milk before the twins and went away.

Jim's glassful went down in short order. "Um!" he said. "Better try yours, Jo-Jo. It's really good."

So Jo-Jo took a sip, then another, and another. She hated to admit to Jim how delicious it tasted.

The Chief Milkman was startled next day by the appearance of the Keeper before the throne.

"What brings you here?" he bellowed.

"Please, Chief, the two earthlings request—"

"Not again. I will not send them home!"

"No, no, Chief, not that. They request—"

"Something besides milk to eat. No!"

"Wait a minute," howled the Keeper, forgetting his dignity. "Those earthlings didn't request any such thing. Let me finish, will you?"

"Proceed," growled the Chief Milkman. "You say the earthlings request—"

"More milk!"

"Ah!" shouted the Chief Milkman. "Splendid, splendid! Why didn't you tell me at once? Let the earthlings be brought before me."

"Well, well," he beamed at the twins, "how do you like the Milky Way to Health?"

"It is very good!" said Jo-Jo and Jim, and this time they meant every word.

"I could drink a gallon," Jo-Jo added, looking hungrily about the room.

"Ho-ho! That's a good one," laughed the Chief Milkman. "Let the banquet be spread."

He clapped his hands. At once a hundred milkmen and milkmaids began filling the long table with good things.

Jo-Jo and Jim tried hard to remember their manners and not stuff in the food as fast as they longed to do. But there were no rules against staying at the table until every bite was gone. This time they did not neglect the delicious cool milk. It is still whispered about the Milky Way that Jo-Jo drank three glasses, tall ones too.

"And now," announced the Chief Milkman, "I am going to send you back to earth. Your plane is repaired and ready to take off."

"We don't know how to thank you," Jim tried to say.

"We will never forget the Milky Way," Jo-Jo said earnestly.

The return flight was as sudden and breathtaking as the first. It seemed as if they rose into the air and then with a terrific bump hit the ground.

Jo-Jo and Jim could hear people running and shouting. Then Oscar's grease stained face appeared. He looked so frightened!

"Och, twins! Are you all right?" he stammered.

"Of course we're all right," Jim said severely. "What's everybody making all the fuss about?" He clambered out of the plane and collapsed in a heap on the ground. "Guess my legs are wobbly after that long trip."

"He's talkin' crazy," moaned Oscar. "Why did I ever let them get in?"

"Oh, Oscar! You should see the Milky Way," Jo-Jo said.

"Och! They're both crazy," howled Oscar, holding his head in both hands.

"And here's Methuselah safe and sound," Jim continued. "We had a terrible time persuading him to come back. He never saw so much milk at one time."

Then Father and Mother Cassidy came running, and they carried the twins home.

"Surely now, you'll be all right after a good rest. It's no wonder your wits are a bit fuddled after such a bump and all. Now what can I fix for your suppers that would please you most?" Mother Cassidy beamed at her twins.

"Anything, Mumsie," Jo-Jo replied, giving her a squeeze. "Just be sure we have a big glass of milk."

"Milk is it?" shrieked Mrs. Cassidy in alarm. "Now I know your wits are addled. Are you sure you mean milk?"

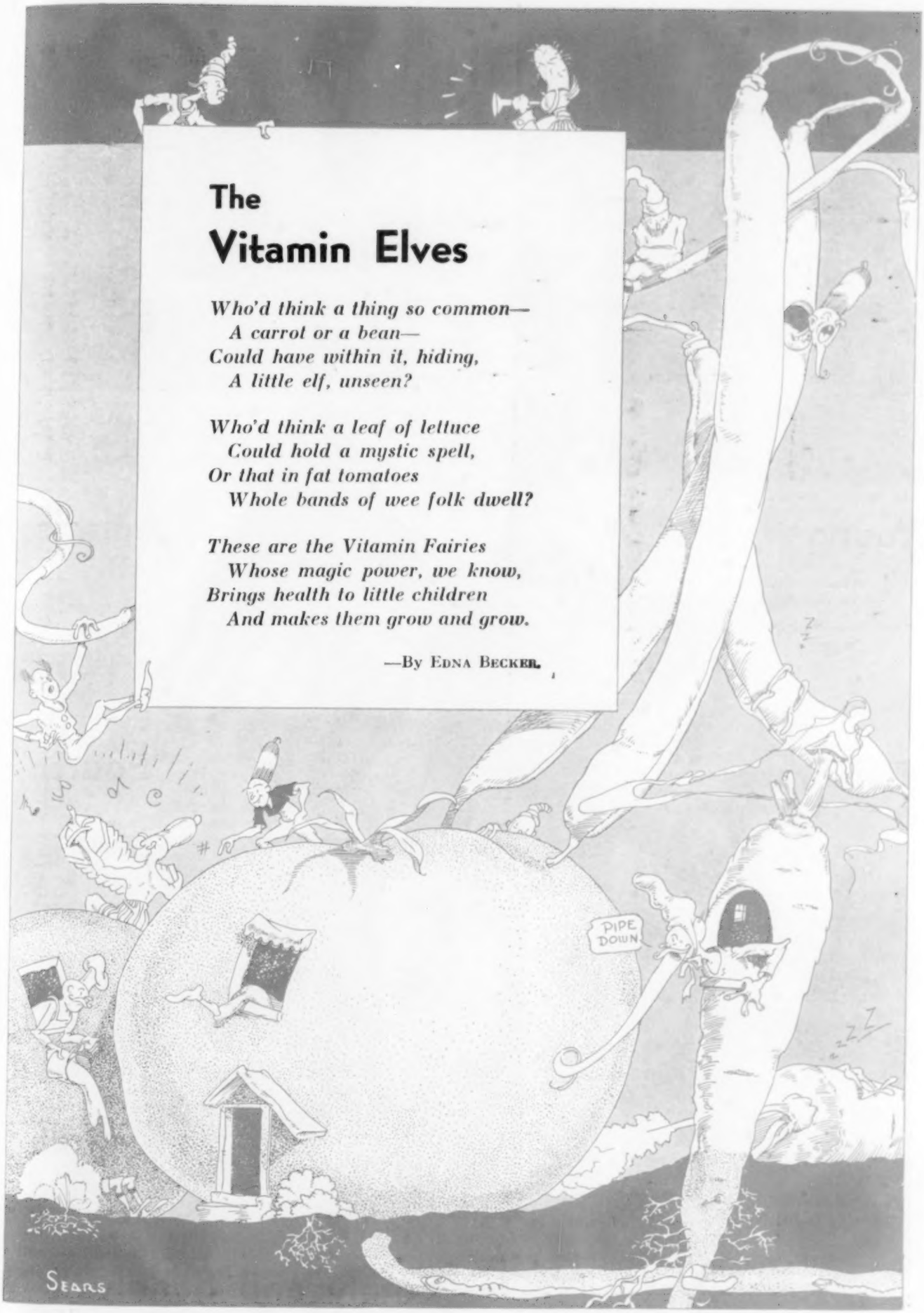
"Yes, Mums," Jim told her. "It's the way to health—the Milky Way." And he winked at Jo-Jo.

Then the twins fell on hands and knees, solemnly repeating,

Milk makes me strong and wise;
Milk gives me sparkling eyes;
Milk is the king of food;
Milk is so very good!

"Saints presarve us!" said Mrs. Cassidy fervently. "I can't understand it. But if it's milk you're wanting, there's plenty and to spare."

"Hooray!" shouted Jo-Jo and Jim. "Hooray for the Milky Way!"



The Vitamin Elves

Who'd think a thing so common—
A carrot or a bean—
Could have within it, hiding,
A little elf, unseen?

Who'd think a leaf of lettuce
Could hold a mystic spell,
Or that in fat tomatoes
Whole bands of wee folk dwell?

These are the Vitamin Fairies
Whose magic power, we know,
Brings health to little children
And makes them grow and grow.

—By Edna Becker.

National Safety Council

Century-Allen

Young America Celebrates the "Fourth"

Century-Allen

Century-Allen

National Safety Council

—"Safely and Sanely?"

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

Motivating Children in Health Education

THE SEVENTH ARTICLE IN A SERIES ON THE CLASSROOM TEACHER AT WORK

CHILDREN are not interested primarily in abstract conceptions of health. The study of such subjects as sleep, cleanliness and the prevention of disease in general leaves them unresponsive. It does not provide the necessary initiative for immediate action because of its failure to enlist personal interest.

Both adults and children recoil from meaningless tasks. Whiting Williams tells of a gang of workmen who protested to their boss shouting: "Deeg here, deeg dere—all time for not'ing, like big fool! We quit!" But as soon as the boss explained that they were searching for a lost water pipe and that he felt quite as helpless as they the attitude of the men changed from disgust to enthusiasm for the job.

Likewise a high school class in hygiene showed signs of intense boredom in the assignments on personal hygiene dealing with the problems of bathing, care of the hands, personal cleanliness and dental hygiene. Finally the teacher hit on the happy plan of associating each of these health habits with business and social success. She drew vivid word pictures of an interview in which two applicants applied for a position as private secretary. One of them had offensive personal habits while the other was particular about details of personal cleanliness and hygiene. There was little doubt as to the outcome.

Every teacher can make her hygiene course significant by linking it with the ideals, ambitions, desires and wants of her pupils. Some motives will appeal to children at one age but will not excite interest later. For example, children in the first grade may be stimulated to have clean hands by morning inspection, but such a method would have little effect on children in the upper grades. Girls in high school are especially interested in improving their appearance, but boys are usually more interested in achieving fame as athletes.

General motives such as these appeal to groups, but the most effective motive springs from the needs of individuals. One high school teacher who had won the confidence of her pupils asked them to write her a letter telling about some of their problems. In almost every case she was able to suggest something helpful in regard to hygienic living. One girl was seriously troubled by a bad condition of acne. She was willing to do anything to get rid of the condition on her face. It was learned that she ate large quantities of candy and carbohydrates and took little exercise. Although she did not care for vegetables little by little she began to eat them and to reduce the consumption of carbohydrates. Soon there was improvement in her condition. A girl who wished to become a camp counselor found her work more interesting when it was associated with camp hygiene. Another girl who was planning to go to Europe during the summer had great fun studying about the hygiene of travel in connection with the trip. It is by such ingenious methods of human engineering that the study and practice of hygiene may be made significant for the pupils and may produce more readily the desired effects.

The Teacher Recreates Herself

THE SUMMER vacation brings to most teachers the opportunity for change, rest, relaxation and a chance to recover from the inevitable strain and the cumulative fatigue of the year. We think of the summer as a time for physical and mental recreation, literally a creating of one's self anew. It is not strange then that after a genuine vacation people return to their work in the fall feeling like new persons.

Certainly the recreating of one's physical self is of first importance. This may mean more sleep, rest and physical exercise, but for most people it should mean a mental recreating which comes from the reading of stimulating books. Such books may be chosen not only to give pleasure while they are being read but also to extend the horizons of the reader's knowledge and thinking. As a result, teachers may return to their classrooms with fresh information and a broader point of view. There are many health books of a semirecreational character. If they are not in your local library your librarian may be able to borrow them from some other library.

Those who enjoy the great drama of man's fight against disease and his struggle for health will find several absorbing popular books on the history of medicine. One of the best of these is "The Doctor in History," written by Dr. Howard W. Haggard and published by the Yale University Press. The author says that he has written this book for his children. "I want my children," he remarks in the preface, "to see the reeking, sweating, savage medicine man struggling with the spirits of disease—the savage who gave us the principle of nearly everything we have in medicine today and much besides that we have tried to get rid of. I want them to witness the rise of mental contagions, and see civilizations crumble before disease and rise again with the aid of medical discovery." Certainly the story of the rise of the doctor, which extends back to the mists of antiquity, is most fascinating. Another book by the same author, illustrated by 150 old etchings and engravings, is "Devils, Drugs and Doctors," published by Harper & Brothers. Another popular book on the history of medicine is Dr. Logan Clendening's "Behind the Doctor," a Knopf publication. A new book which has been almost as popular as a novel is "Rats, Lice and History" by Dr. Hans Zinsser, which was recently issued by Little, Brown & Co.

These books are not difficult to read. They avoid technical terms, and yet they are entirely reliable. Not only will they broaden the horizon of any teacher dealing with health problems, but they offer material which teachers may introduce in story form in their classes, particularly in high schools and colleges. Teachers of history will find in these books many dramatic incidents which may be woven skilfully into their lessons. How interesting it would be, for example, for boys and girls to see how such apparently harmless creatures as mosquitoes, lice and rats have played a major part in the history of civilization.

SOLVING HEALTH EDUCATIONAL PROBLEMS

CHILDREN'S QUESTIONS START A WHOLE YEAR'S WORK IN HYGIENE

MARIA PALMER HERTWIG
MACON, GA.

Health teaching becomes absorbingly interesting if the lead of pupils is followed. Mrs. Hertwig tells about the absences in her school due to an epidemic and explains how the curiosity of the children about its cause and the way it might have been prevented suggested the health work for an entire year. To what extent are you able to follow children's leads in your health teaching?

LAST year when the new sixth grade class came to me the first of February, we were in the midst of one of the worst epidemics of influenza, colds and other ills that this section has ever known. For two weeks the class attendance was so bad that we could not attempt new work. There were any number of children I had not yet seen because they had been ill when promoted.

One morning when I was calling the roll and expressing my concern over the absentees, one of the children gave us the theme for our health work throughout the year. She asked the question, "What causes all these epidemics, and isn't there some way that we could prevent them?" The pupils decided after some discussion that they would like to know, and we set about finding out.

The first thing to do was to look up in our textbooks material on the more common diseases, their symptoms, causes and the means of prevention. This, of course, motivated the use of the textbook and made the children more eager to acquire the ability to interpret the new words. They became so interested in the germs that caused these diseases and the white corpuscles that so nobly defend the body that we wrote a letter to the city bacteriologist asking whether we might visit him in his laboratory and see them for ourselves. He kindly consented. We took the children in small groups to the laboratory where we were shown many of the dread disease germs and the white and red blood corpuscles under the microscopes. Of course, we had to write a letter of thanks, and as only a perfect letter could go, the children made a great effort to write an excellent one.

The next problem to be considered was, "How can we prevent these germs from conquering us?" Recourse to our textbook and other source material showed us that the best resistance to disease was to be obtained by keeping our bodies strong through following certain health rules. We worked out a set of rules as our standard. Each morning now we check on individual graphs the extent to which we have kept these rules. Sad indeed is the boy or girl who does not make 100 per cent.

The visits of the school nurse, doctor and dentist suggested that there were other agencies which helped us to keep well. As these aids were furnished by the local board of health the question arose as to how that agency helped us to keep well. The head of the health department came out at our invitation and talked to us about the health work of the various departments. As a result of his visit we decided to divide the class into six groups, each group to make a large poster depicting the work of one of the departments of the board of health. Our six groups chosen were to study the inspection and standardization of milk, mosquito control, epidemic control, control of tuberculosis, pure water supply and playgrounds. The last was particularly important as our suburban community had no playground and the Men's Club was working hard to get one. Each group went to work with great zest to find out why each department was needed, what the health board did about it, and what they themselves could do to help. The pictures they assembled on the poster were wonderfully effective. The children learned much about the care of milk, the dangers of impure water and how to destroy the breeding places of the mosquito. The epidemic control group made a separate chart labeled "Immunized." Under it they put a list of every child in the room and places for stars to indicate that the child had been immunized against typhoid, diphtheria and smallpox. This encouraged those who had not done so to take these precautions. When the work was finished the posters were displayed in the classroom.

A problem that arose many times was, "How did mankind find out about diseases, their causes and their prevention?" We decided, as a climax to our year's work, to study a few of the outstanding men who had done this work. One of the large insurance companies provided us with its series of pamphlets on "Health Heroes," sending a sufficient number so that each pupil might have the complete set for class use. We first read the biographies and then decided to portray the lives of our health heroes in pictures. The first ones were painted under the direction of the art supervisor, but the children worked out the rest for themselves. The pictures were mounted in chronological order on long strips of brown wrapping paper and were entitled, "The Story of Edward Jenner," "The Story of Louis Pasteur," "The Story of Edward Trudeau," and "The Story of Walter

Reed." At our closing exercises in the school auditorium four children told the story of each scientist, using the picture as illustration.

This was the most satisfactory and significant health activity we ever attempted. It tied our health work up with a real life situation and formed a unit out of which grew much of the work of the entire school curriculum. It gave the children an intelligent appreciation of the importance of good health and of cooperation with the civic agencies in furthering community sanitary measures. It improved the children's English and vocabulary through letter writing and oral discussions. It also furnished many practical arithmetic problems in working out the cost of health to the taxpayers, the percentage of decrease in disease and the large numbers involved in germ multiplication. It tied up in an interesting way with the geographic problems of many of the places studied, such as the Panama Canal, the South American countries and Italy. It furnished a background for the study of science in the high school and for an understanding of the future development of disease prevention. Above all, the project trained the pupils in good citizenship by giving them an appreciation of the work our country is doing for health. New ideals of service were inspired by the lives of men who sacrificed so much to save mankind from suffering and pain.

THE AUDITORIUM AS A CENTER OF HEALTH INSTRUCTION

BERTHA STREETER
ROYAL OAK, MICH.

The auditorium period offers many educational opportunities to a wide-awake staff of teachers. Miss Streeter describes a plan of organization whereby the auditorium period of schools is used most effectively. Have you an auditorium session in your school? Have you found any way of using this time effectively in health teaching?

THE Detroit curriculum for platoon schools allots approximately 15 per cent of the time each section spends in the auditorium for the teaching of health. This may be done by direct teaching, plays, songs or any other method suitable for the grade. Aside from this time allotment, no definite arrangement is made for the teaching of this subject. The amount and kind of health teaching in each school depends largely on the health consciousness of the principal and teachers. In some schools a great deal of constructive work along this line is being done.

In one elementary school, every teacher made a morning inspection for the purpose of detecting children who might be coming down with colds, rashes, sore throats or other ailments. These pupils were sent to the school nurse for diagnosis of the condition and for instructions. No time was ever allotted for this; it merely became customary while taking the attendance. So, too, when the department of health sent physicians and dentists to examine the pupils, examinations were duly made, results recorded and parents notified of defects to be remedied if the child was to do full justice to his school work.

But this was as far as it went until the principal realized that in spite of many health and dental examinations, health conditions among the pupils had not improved. Records showed that in two sections including children about 7 years old, 14.2 per cent were malnourished, and of these, half had diseased tonsils, and two-thirds had defective teeth. These facts might indicate ignorance of the proper choice of food for growing children, lack of sufficient rest, or unhygienic home surroundings. The last dental survey had revealed 148 children in this section in need of attention, but in the four intervening months, only 19 children had profited by the examination. The principal put before her teachers this unsatisfactory return for the time, money and effort expended.

The result is a health program which, though worked out to meet the needs of the malnourished group, interests all the students in maintaining their own health and promoting health at home. The auditorium is the center of health instruction, though the discussions, planned by the auditorium teacher, originate in the home rooms where they start in connection with morning inspections. A topic for discussion is sent each day to the various teachers, and stimulating material including posters, booklets and pamphlets is sent from the auditorium so that the work of the teachers will not overlap and thus result in overemphasis or in neglect of pertinent facts.

Matters presented in this way are followed up by the teacher in the home room where the pupil has his "reading, writing and arithmetic," by teachers of art, literature and science, and in the gymnasium. For instance, after a home room discussion as to what might have caused a pupil's toothache, causes are summarized when the group meets in the auditorium, and the pupils draw their conclusions. With this background in home room and auditorium, the children have created rhymes at home to interest parents in helping to promote health for themselves and for the entire household. In home rooms the pupils have written their rhymes as applied writing; in art they have illustrated them according to their own ideas. Later, the best posters have been displayed in the auditorium and in the corridors and on the bulletin boards of the school.

Whenever health teaching can be coordinated with any subject, the auditorium teacher brings it to that teacher's attention. For instance, pupils who have been discussing foods that build health may get a practical application of the matter in the arithmetic class where they compute the number of quarts of milk that should be purchased daily by families with varying numbers of children, and pupils farther advanced may figure out how much these amounts will cost, and so on.

Along with this program for pupils there is another for parents. As many contacts as possible are made through the auditorium; some parents meet the teacher or principal at noon, some after school. Home calls are made on parents of malnourished children to determine

---

To Contributors: — *The editor of the School and Health Department will be pleased to receive articles dealing with the solution of concrete and practical health education problems in the school. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

their knowledge of health, the economic situation of the family and other conditions that affect the health of the pupil. Such contacts are made at the convenience of those concerned, and each case is dealt with according to its needs. One of the most important results has been the correction of conditions of maladjustment through the cooperation of the family on behalf of the children's health.

Several meetings were held for mothers at which talks on health habits and ideas for better living were presented. When the pupils were studying the causes of the common cold and its treatment a talk on that subject was given at the meeting of mothers. A leaflet on the subject was sent the next day to all mothers who did not attend. Similarly, the following topics were discussed by speakers from the department of health and other organizations: the importance of rest; food and food values; food budgets and the preparation of foods; health awareness, and the part parents must take in bringing about healthy conditions in which children should live. From almost all these meetings, mothers voluntarily selected and took home with them literature on the subject presented. Suggestions and recipes for well balanced meals on low budgets seemed to be especially popular.

Of course, the degree of improvement in malnourished children could not be measured at the end of the year, but mothers stated that the children had definitely improved in eating habits and their emotional control. In the affected group 64.2 per cent with defective teeth and 13 per cent with diseased tonsils had been treated, and 33.3 per cent suffering from malnutrition, and 40 per cent of the anemic children were greatly improved. These figures were compiled from signed statements from doctors and dentists. Aside from the malnourished group, three children persuaded their parents to allow them to have their diseased tonsils removed.

One of the most striking results of the health program was the neater appearance of the student body as a whole, their greater health awareness and the smaller number of cases of colds and children's diseases. Children voluntarily cleaned their teeth and washed their hands and faces more often, and they kept their clothing neater. They assumed the responsibility themselves and did not do these things only because "mother said to do it." At home many insisted on having individual towels and wash-cloths even if they could be nothing but rags. Others kept away from playmates who looked or acted ill, and all seemed to have

more respect for quarantine signs. A remarkable number stayed at home and in bed, drinking all the water they could take, when they had a cold. They took pride in seeing how quickly they could "break it up" and in stating how they were going to avoid having another one.

This school wonders how it ever got along without its health program!

A TEACHING PLAN ON THE CANDY HABIT IN THE FOURTH GRADE

BELLE L. DICKINSON
Humbolt State Teachers College
ARCOTA, CALIF.

The candy habit may be very detrimental to health, although pure candy if used judiciously in a balanced diet is a desirable food. Miss Dickinson outlines the way in which the candy habit is studied in her fourth grade. Do the children in your room have desirable candy habits? Do they know the value of candy in a balanced diet? Could you use a plan similar to Miss Dickinson's in your schoolroom? Would you need to modify it? If so, how?

Aims.—To have pupils discover the best time to eat candy. To create a sentiment against spending all one's money for candy.

Materials.—A Journey to Healthland (Andress, Chapter XIII); The Way to Keep Well (Newmayer & Broome, pp. 164-166); Health and Success (Andress & Evans, p. 102); Boys and Girls of Wake Up Town (Andress, p. 162); Health for Everyday (Bigelow & Broadhurst, pp. 102-104).

Procedure.—Discussion led by teacher, as follows:

TEACHER:
When we had our candy sale yesterday noon, did you notice that some of the children began to eat the candy as soon as they bought it? They found the first piece so good that they kept right on eating until their candy was gone, and something else was gone with it.

ELMER:
Their money?

TEACHER:
They didn't mind that because they had planned to spend their money. But I wonder how they enjoyed their lunch?

ROBERT:
I know. Their appetite was gone. You know if you eat a lot of candy, just plain things like bread and butter don't taste good. I ate only one piece and kept the rest of mine till after lunch.

JACK:
I saved all of mine for dessert, and it tasted just as good. And my lunch tasted good, too.

TEACHER:
This morning we are going to find out all we can about eating candy. What are some of the things every one should know?

JACK:
When to eat candy.

VIRGINIA:
I had to put mine in the wastebasket once. We could talk about *where* to eat it.

TEACHER:
Yes, although I am sure all the people in this room know how to answer that question. There's something else we need to know.

CHARLES:
We should know enough not to make pigs of ourselves. That's a thing boys are apt to forget when there's candy.

TEACHER:
I'll write "How much?"

CHANNING:
Some people say candy isn't good for you, and some people say it is; so we ought to find out.

TEACHER:
I'll write "Is candy good for us?" for that point, and since it is the first question we need to answer, I'll place it first. I am adding one more point to the list because we all want to be polite. Now our outline contains the following points:

THE CANDY HABIT
Is candy good for us?
Why?
When?
Where?
How much?
What has politeness to do with eating candy?

Today we are going to see how much we can find out from these books about the candy habit. The first five may sign their names after one of the topics in which they are interested. I'm glad you each selected a different topic. Now you may choose a

partner to work with you. There are just ten of us here today.

Activities.—Relating candy to the pupils' recent experience; discussing what they want to know; choosing topics to look up; choosing a helper; reading reference books; reading to others; discussing how to pass knowledge on to others; discussing candy and thrift.

Follow-up work.—It might be interesting for each of us to save one cent out of every nickel he gets this month. The boys and girls who follow this suggestion and save their money will be practicing thrift.

Conclusions from study and from personal interviews.—1. Most candy is made of sugar. Sugar is one of the foods which give us heat and energy, so we should eat some candy. 2. Sugar does not have any material to make strong teeth, so we should not eat too much of it. Also too much candy spoils the taste for milk, fruits and vegetables. 3. Too much candy causes decayed teeth and toothache. 4. The best time to eat candy is immediately after lunch. 5. Candy should not be eaten in school because most people cannot do two things at once and do them well. 6. To be polite we should share our candy with every one. If we have not enough to go around, we should wait until later to eat it.

NEW HEALTH BOOKS
for teachers and pupils

THOU SHALT NOT KILL

Free. Pp. 54. Hartford, Conn.: The Travelers Insurance Company.

APPROXIMATELY 36,000 people were killed and nearly a million injured as a result of 882,000 personal injury accidents in 1934. The deaths represented an increase of 16 per cent over the 31,078 fatalities reported in 1933. What a disgrace for a country that calls itself civilized!

Do you know where your state ranks in the death rate? The Travelers Insurance Company has performed a great service for the public in issuing this valuable booklet. There you will find the parade of the states. There is a startling difference between Rhode Island with its rate of 13.8 per hundred thousand population and Nevada with 67.7. What was the cause of this increase in the death rate, and what were the causes operating in all these accidents? The Travelers Insurance Company has summed this all up neatly and presented it in graphic form through graphs and pictures.

This booklet should be read by every citizen. Certainly the facts which it contains should be presented in every high school. They might well be introduced into a health or civics class, for high school students are already operating motor vehicles.

The hopeful thing about these facts is that nearly all these accidents are preventable for they are largely the result of carelessness.

HEALTH EDUCATION IN SENIOR HIGH SCHOOLS

By Dorothy Ruef, Ph.D. Price, $1.50. Pp. 106. New York: Bureau of Publications, Teachers College, Columbia University, 1934.

HEALTH education in senior high schools is still an unexplored land. Within the last few years much thought has been devoted by educators to the consideration of aims, values, methods and practices in the elementary schools. This enthusiasm for healthful living in the grades has naturally influenced our high schools, but, like Topsy, the program in our senior high schools "just growed" without clear concepts of its purpose and with an incoherent organization or no organization at all.

Into this unexplored land Dr. Dorothy Ruef has boldly plunged in a journey of scientific investigation. She obtained her data by the questionnaire method from 1,085 members of the faculties in various senior high schools in New Jersey. She finds that they all feel some responsibility in connection with student health. She also finds that there is general vagueness as to what health education really means and that there is no definite administrative plan or central organization to promote healthful living. Each active participant in the health program runs his or her own show. School doctors and nurses have had little or no training in health education which would help them in their work.

The general situation seems chaotic. Dr. Ruef finds an hospitable attitude toward health education and explains that much of the chaos is due to the relative newness of health education in the high school administration and the general lack of training on the part of the members of the ordinary high school staff.

Dr. Ruef is not content with the mere discovery of facts but in the light of her investigation makes valuable recommendations. She suggests the need of supplementary investigations. A state program of health education for high schools is an obvious need. This new program should be founded on the modern interpretation of health education, an interpretation made clear through illustrations of actual school situations.

BUILDING PERSONALITY

By A. Gordon Melvin. Price, $3. Pp. 303. New York: The John Day Company, 1934.

THE NEWER aims in health education emphasize the importance of building healthy personalities. Therefore this new and stimulating book will be welcomed by all teachers who wish to get a better idea of what personality is and how it is to be built.

The author reviews the many schools of psychology and has great fun pointing out their mistakes and their tendency to split hairs over nonessentials. His observations on learning will be of interest to teachers. "Each child as the day goes by," he says, "needs some new experience to develop and build his growing personality. It is for the teacher who knows him to meet that growing need. By helping him to determine on the wholesome act, the one which rounds and fills out this learning child, the teacher is teaching. He is making the personality of his pupil."

INFANTILE PARALYSIS

By George Draper, M.D. Price, $2. Pp. 167. New York: D. Appleton-Century Company, 1935.

THERE is little that the classroom teacher can do to prevent or combat infantile paralysis, but every teacher should welcome this compact little book which is well adapted to the lay reader. It answers such questions as these about infantile paralysis: What does the medical profession know about this disease? Can infantile paralysis be prevented? Can one benefit by running away from an epidemic? Are the newly developed serums effective? After the disease has run its course, what can be done to prevent deformities?

New Books on Health

THE HEALTH AND GROWTH SERIES

By W. W. Charters, Dean F. Smiley and Ruth M. Strang. Cloth. New York: The Macmillan Company, 1935.

KEEPING HEALTHY. Price, 88 cents. Pp. 360. THE BODY'S NEEDS. Price, 92 cents. Pp. 419. HEALTH THROUGH SCIENCE. Price, 96 cents. Pp. 455.

GOOD HABITS. Price, 60 cents. Pp. 183. LIVING HEALTHFULLY. Price, 60 cents. Pp. 183. WISE HEALTH CHOICES. Price, 72 cents. Pp. 208. HEALTH PROBLEMS. Price, 80 cents. Pp. 227. ADVENTURES IN HEALTH. Price, 80 cents. Pp. 221. HEALTH KNOWLEDGE. Price, 80 cents. Pp. 251.

THIS SERIES of textbooks is apparently planned to provide the child with reading material and discussion in the field of health and hygiene. The series is graded so as to carry the work forward and at the same time to review previously given information. The sets are published in six-book and three-book forms. The six-book form includes Good Habits, Living Healthfully, Wise Health Choices, Health Problems, Adventures in Health, and Health Knowledge; the three-book form includes Keeping Healthy, The Body's Needs, and Health Through Science. The two series are identical in content.

The authors have chosen excellently in illustrations and in the vocabulary used. The health teaching is correlated with the seasons of the year and with the problems that confront the child at the time this information is presented. The books are designed particularly to bring health information up to date.

MORRIS FISHBEIN, M.D.

TUBERCULOSIS

By Fred G. Holmes. Cloth. Price, $2. Pp. 312. New York: D. Appleton-Century Company, Inc., 1935.

THE CONSENSUS of physicians dealing with the tuberculous is that knowledge constitutes the most potent weapon against this disease that can be put into the hands of the patient. This book is apparently written by an advocate of such a point of view. It is a painstaking, logical, clear exposition of the disease and is written mostly from the point of view of the patient. In order to give the patient some conception of the difficulties involved, the author has given sufficient insight into the momentous decisions which a doctor must make in handling a long drawn out case of tuberculosis. At first reading it might appear that too much technical information has been given the patient, but the farther one reads in the book the greater grows the conviction that Dr. Holmes is correct in taking the patient fully into the confidence of the physician. Such frank and cooperative facing of the serious problems involved in the treatment of a chronic disease like tuberculosis is sure to result, in most instances, in a better understanding between doctor and patient. Thus it will lessen the likelihood that the patient, growing discouraged, will go adventuring into the shadowy borderlands of quackery or cultism or be lured from the steep and narrow path to recovery by rosy promises from promoters or well meaning friends.

In this book the patient with tuberculosis will find a frank but fearless facing of facts. There is neither undue optimism nor exaggerated pessimism. The patient with tuberculosis has a real fight on his hands, and Dr. Holmes impresses him with that fact, at the same time pointing out that there is hope for most patients with tuberculosis.

The difficult subjects of light therapy and surgery are well handled. The only point that the reader misses is the public health aspects of tuberculosis. This omission is undoubtedly intentional since the book is entitled "a book for the patient." The book closes with a well written, friendly talk between a physician and his patient in which ethical considerations are touched on, as are the contributions of the medical profession, through the Council on Pharmacy and Chemistry and the Bureau of Investigation of the American Medical Association. The subject of quackery comes in for brief but effective treatment. The book should have a place in the library of every tuberculosis sanatorium, and it should also be on the shelves of public libraries as well as in the hands of individual tuberculosis patients. There may be a few patients of introspective, pessimistic type who should not read this book, but the attending physician can readily take this fact into consideration. For most tuberculous individuals the book should be not only enlightening but heartening.

W. W. BAUER, M.D.

READING TO LEARN

BOOK ONE. By Gerald A. Yoakam, William C. Bagley and Philip A. Knowlton. Cloth. Price, 84 cents. Pp. 401. New York: The Macmillan Company, 1935.

MODERN textbooks are being made so attractive that there is pleasure in the use of them. This informal reader includes special material in the fields of history, geography, science, nature study, biography, civics and health. Each of the articles sets forth a problem and is supplemented with exercises to carry forward the information gained. There are also directions for speed and comprehension tests and an outline of the abilities to be developed through reading. In the health field such subjects are discussed as sleeping habits, sanitation, and caring for young babies.

M. F.

ESSENTIAL NATIONAL SERVICE

Pp. 12; New York: The National Recreation Association, 1935.

THE National Recreation Association presents this annual report, a simple and readable financial statement, with a list of its directors and honorary members. It designates a nation-wide regional and local program for recreation as a necessity in view of the army of unemployed youth, unemployed adults and adults with unsatisfactory employment. It recognizes that "recreation is not and cannot be a substitute for employment, for economic security, but does have value as one essential positive activity." Quoting from an executive officer of the National Committee on Mental Hygiene it states, "There is as much wisdom in cutting the recreational budget at this time as there would be in curtailing the work of the Health Department in the midst of an epidemic of smallpox."

W. W. B.

COMMON SENSE FOR MOTHERS

On Bringing Up Your Children From Babyhood to Adolescence. By Mrs. John S. Reilly, with an introduction by Charles Gilmore Kerley, M.D. Illustrated. Cloth. Price, $2. A Literary Digest Book. New York: Funk & Wagnalls Co., 1935.

THIS SANE, practical and appealing volume on child training contains no half baked theories, no idle preachments. Here is psychology wisely applied, sound common sense administered with a dash of humor and revealing the author as tolerant, understanding, sympathetic and wise. Throughout the book, with its hundreds of everyday problems, the author keeps steadfastly before her the question, "What is the sensible solution?" With directness and simplicity she clears the way to that solution. It is refreshing to find a modern mother, writing for modern mothers, who talks squarely to her audience, not down to it, and who is neither ashamed nor afraid to reject some of the much vaunted theories of the modern school in favor of old-fashioned rules and to cast aside with equal impartiality those old rules which have been found inadequate to meet present conditions and have been superseded by the more modern psychology.

The book is divided into five parts, each replete with answers to the questions that vex and perplex the parents of growing children.

The section on babies contains reassuring advice to the expectant mother; makes the baby's advent and care as simple and joyous as possible; discusses the baby's food, sleep and environment and certain universal health problems, including the bed bath, summer care and taking the temperature, and considers proper and improper sources of advice.

Next are viewed the toddler's problems in regard to health and habits. Here is included an astute consideration of "the modern notion that we must consult our children about everything and allow them to decide." Those timid souls who have quivered under the lash of disapproval when they have maintained that their children were too young to make important decisions will rise and cheer Mrs. Reilly's firm stand: "Is Sally, with her immature child's judgment, in a better position to decide what is good for her than you, with your memory of your own childhood, your mature, experienced judgment, your knowledge of the things which have turned out well with other children? No child will be grateful for the privilege of deciding matters of which she can know nothing. . . . Let us develop their judgment on unimportant matters while they are young, and when age and experience matures them let us gradually allow them to make more important decisions."

Part III, which will be welcomed by teachers as well as parents, concerns children of school age and defines the attitude of the parent toward the school authorities. In addition to hints on making children reliable and making them pleasant to live with, there is a discussion of that important subject, sex education.

The problems of adolescent boys and girls, analyzed in part IV, are most aptly phrased in the chapter headings: Our Wilful Girls of Today: "The Silly Way She Dresses"; Her First Beau; Entertaining Their Friends; How They Behave! Adolescent Manners; College and a Business in Life; How About Our Boys? Modern Problems: Movies, Drinking, Smoking; and Brothers and Sisters.

In the final section the author faces various situations which are common to all mothers and which concern affection and discipline, routine versus overwork, and the rewards of motherhood.

Topics and chapter headings can, however, give but a vague idea of the value of the book and only a faint foreshadowing of the delightful manner in which the material is presented. It has countless invaluable messages for parents and teachers and for every adult who, if he is a thinking person, must have the interests of the younger generations at heart; for, as it has wisely been said, "Men and women do not grow into adult success out of childish unsuccess. The child is in very truth father to the man."

Leola J. Harris.

STAMMERING AND ALLIED DISORDERS

By C. S. Bluemel. Cloth. Price, $2. Pp. 182. New York: The Macmillan Company, 1935.

THIS BOOK presents, in language easily understandable to readers without scientific training, the theory that stammering is a neurologic and not a physical phenomenon. The author describes at some length the work of various observers on conditioned reflexes. He regards normal speech as a fixed conditioned reflex, and he considers stammering as a failure of fixation, perhaps due to inhibitions developed during childhood, of the normal conditioned reflex of speech. He discusses other theories of stammering and either rejects them or endeavors to show that they explain only part of the problem. His rejection of the commonly accepted belief that interference with left-handedness is liable to result in stammering will be most surprising to many readers. He recommends early attack on the problem of stammering, in order that failure of fixation may be remedied while there is still time. He considers breathing exercises, vocalization and articulation exercises and formal speech training of no avail. His recommended methods of training are based on a neurophysiologic (biologic) conception of the speech mechanism rather than on a mechanistic conception. Rest is emphasized, even to the extent of complete bed rest and isolation. The book is well and interestingly written and should be of real help to parents with stammering children. Though the author holds out less hope for complete cure of adult stammerers, he does indicate ways and means for minimizing the difficulty. A bibliography and a good index are given.

W. W. B.

PERSONAL HYGIENE APPLIED

Fifth Edition. By Jesse Feiring Williams. Cloth. Price, $2.25. Pp. 529. Philadelphia: W. B. Saunders Company, 1935.

THIS BOOK is now in its fifth edition. The author has thoroughly revised the text in order to keep it up to date. Questions and exercises follow each chapter, and a bibliography is supplied through use of footnotes. The book is nicely printed on smooth stock, profusely illustrated, and constitutes altogether one of the best available handbooks of personal hygiene.

M. F.

QUESTIONS AND ANSWERS

"When Is Medicine Harmless, Harmful?"

To the Editor:—Please send me all available information regarding this question: "How can one tell whether a medicine is harmful or harmless?"

H. R., Michigan.

Answer.—No person except a physician can tell whether a medicine is harmless or harmful, and even he cannot decide unless he knows exactly what is in it and how much of each ingredient it contains.

The question as to whether a medicine is harmless or harmful is really not a significant question, because any medicine which has any potency may be harmful. It all depends on how it is taken, and that, of course, should be determined by a physician.

For example, digitalis, a powerful drug, which is exceedingly useful in the treatment of certain types of heart disease, can readily do harm if it is not correctly used; so can morphine, cocaine, ephedrine or iodine. Even simple drugs like castor oil and baking soda can do harm if they are not rightly employed.

Instead of trying to decide whether or not a medicine is harmful, patients would do well to avoid taking medicine without medical advice, or at least to confine such taking to the simplest of home remedies. Even home remedies should not be taken continuously without a medical diagnosis or advice, since serious delay in necessary treatment may result from such a practice.

"Needling" to Relax Muscular Spasm

To the Editor:—Why should needling, as practiced by the Chinese, relax muscular spasm? Many in the East have been crippled for life, their joints being permanently stiffened by needling. No one can tell why the patients do not all die of blood poisoning, for rarely, if ever, are the needles used in the process sterilized. Sometimes terrible sores develop, but I have never heard of a case of blood poisoning for which needling was responsible.

B. C. P., China.

Answer.—Needling in one way represents a form of counter-irritation which includes cupping, blistering and the use of plasters. These methods are much less important than was formerly believed.

Needling relieves muscular spasm only with limited success. The practice is unscientific. The patient subjects himself to a chance of being harmed, with little chance of relief. It has long been practiced by empiric physicians. Following a system of definite "needling" points in the human body, the success of the process depends on the individual's own reaction. Chinese street doctors often are responsible for the development of such conditions as internal hemorrhage and secondary infection.

Beards in the White Race

To the Editor:—What is the genetic reason that male adults of the white race have beards on their faces and male adults of the black, red, brown and yellow races do not?

W. T. S., California.

Answer.—Definite information as to why some races have beards and others have almost none would be extremely interesting. However, little is known concerning the causes, and about all that can be said in the matter is that such a condition is due to heredity. There are hairless mice and hairless dogs, and breeds of dogs with various degrees of hairiness. Such conditions often depend on a change in a single heredity factor, or gene, but since nothing is known of how the gene in question is changed or how this change affects development, there is no answer to the question propounded.

Science is in much the same position in regard to the hereditary conditions of all kinds. It is sometimes possible to discover how traits of character are inherited, but why one kind of heredity makes a man black and another kind makes him white is a question which is at present far beyond the power of any geneticist to answer.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Vital Statistics

To the Editor:—Will you please send me all the information you have on vital statistics?

N. K., Nebraska.

Answer.—The inquirer's request for information about vital statistics is indefinite. Vital statistics is the science of collecting, compiling, studying and publishing the facts about population, births, deaths, and the influences that affect them. It is a large subject which has been discussed in a number of books, including books on hygiene.

There is a good discussion of vital statistics in a book entitled "Vital Statistics" by George Chandler Whipple, published by John Wiley & Sons, Inc., New York City, and priced at $4.

Excellent studies in vital statistics have also been made by Louis I. Dublin and by Raymond Pearl. Among these are the following:

Dublin, L. I.: Health and Wealth: A Survey of the Economics of World Health. Price, $3. New York: Harper & Brothers, 1928.

Population Problems in the United States and Canada. Boston: Houghton Mifflin Company, 1926.

Some Problems of Life Extension. New York: Metropolitan Life Insurance Company, 1924.

Dublin, L. I., and Lotka, A. J.: Money Value of a Man. Price, $5. New York: Ronald Press, 1930.

Pearl, Raymond: Biology of Population Growth. Price, $3.50. New York: Alfred A. Knopf, Inc., 1925.

Studies in Human Biology. Price, $8. Baltimore: Williams & Wilkins Co., 1924.

Present Status of Eugenics. Price, 15 cents. Sociological Press, 1928.

Pearl, Raymond; and Reed, A. J.: Predicted Growth of Population in New York and Its Environs. Price, 25 cents. Regional Plan of New York, 1923.

A TRIUMPH FOR MOTHER, TOO

THERE aren't any prizes for mothers on these occasions. But there should be! . . . for those mothers who, by their knowledge of proper foods, help make these little victories possible.

Most mothers know the food requirements of childhood, and are learning how canned foods may help meet these requirements. For thousands of parents have learned that the canned strained fruits and vegetables recommended during babyhood have this in common with all canned foods—they are *sealed cooked,* a process that conserves certain nutritive values.

As your doctor will tell you, strained vegetables are cooked after the can is sealed, and practically all the air expelled. This protective measure conserves vitamin C, the oxygen-sensitive vitamin, to a greater extent than ordinary methods of cooking in the presence of air.

Moreover, home cooking methods are known to extract soluble food values, certain minerals and vitamins being lost when the cooking water is discarded. But in canning—and this is true of all canned foods—the foods are cooked in a limited amount of water *after the cans are sealed.* Thus, soluble food essentials remain *within* the can.

The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.

ACCEPTED AMERICAN MEDICAL ASSN Committee on Foods

Home Economics Department AMERICAN CAN COMPANY *230 Park Avenue, New York*

Test Eyesight Regularly

The Blackboard Problem—as it looks to Jim and as it looks to Bill

A Special Warning

Contrary to a widespread idea that the Fourth of July has been made "safe and sane," the National Society for the Prevention of Blindness states that the toll of accidents from fireworks was greater last year than in many previous years.

BILL failed in arithmetic. He couldn't add blurry figures that wouldn't stand still. Poor vision is a tough handicap to a child in school. At least one in every ten has some form of defective eyesight.

Many of these uncorrected defects are progressive and cause increasing eye-strain and impairment of vision. Eye-strain may lead to severe recurring headaches, nervous exhaustion, hysteria, insomnia, dizziness and other disorders.

In older people there are other conditions of the eyes which are far more serious than imperfect vision. If untreated, they may eventually lead to blindness. Glaucoma and cataract can be present and in the first stages give little indication of their threat to your sight. Recognized early, glaucoma may be successfully treated; a cataract may be removed by an operation.

Good reading habits of young and old prevent many eye troubles. Have your eyes examined regularly, even though they seem to be normal. Never wear glasses which have not been prescribed. Don't read with the light shining into your eyes, or without your doctor's consent when recovering from serious illness, or when lying down—unless your head and shoulders are propped up and the page is held at right angles to your eyes below the line of vision. Hold your work or book about 14 inches from your eyes.

Don't use public towels or rub your eyes. Conjunctivitis and other communicable diseases may follow. Do not use any medication for diseases of the eyes unless it has been prescribed for the purpose.

Make sure that no member of your family is endangering his sight. Send for the Metropolitan's free booklet "Care of the Eyes." Address Booklet Department 735-Z.

METROPOLITAN LIFE INSURANCE COMPANY
FREDERICK H. ECKER, PRESIDENT ~ ONE MADISON AVENUE, NEW YORK, N. Y.
© 1935 M. L. I. CO.

Skin Eruption; Allergy

To the Editor:—While I was a chemistry student at the university two years ago I had occasion to cut up and use a great deal of metallic sodium. In the course of these operations I received sodium burns on the first joints of the second and third fingers of the left hand. Some weeks later there was an eruption at the point where the burns occurred, and there was "weeping" and constant peeling of the skin. I tried self medication with iodine solution. The condition grew worse. The university physician began treatment at this stage. He used Whitfield's ointment, iodine, metaphen, ammoniate of mercury, and coal tar ointment. The success which attended the use of mercury compounds was only temporary. The condition kept reappearing as badly as before. The eruption spread to the first finger of the left hand and the first and third fingers of the right hand, though neither the nails nor the region between the fingers were affected. Another physician said that while I was a chemist I could not be cured. However, he prescribed a bland ointment to relieve the itching and "weeping." Since then other physicians who have seen the hands have suggested x-ray treatment or treatment with the ultraviolet rays. Sodium dichromate and the potash compound have been suggested as possible causes of the condition. At present all the fingers except the thumb of the left hand are affected, as are two fingers of the right hand. No one with whom I come in contact has contracted the disease from me.

M. B., California.

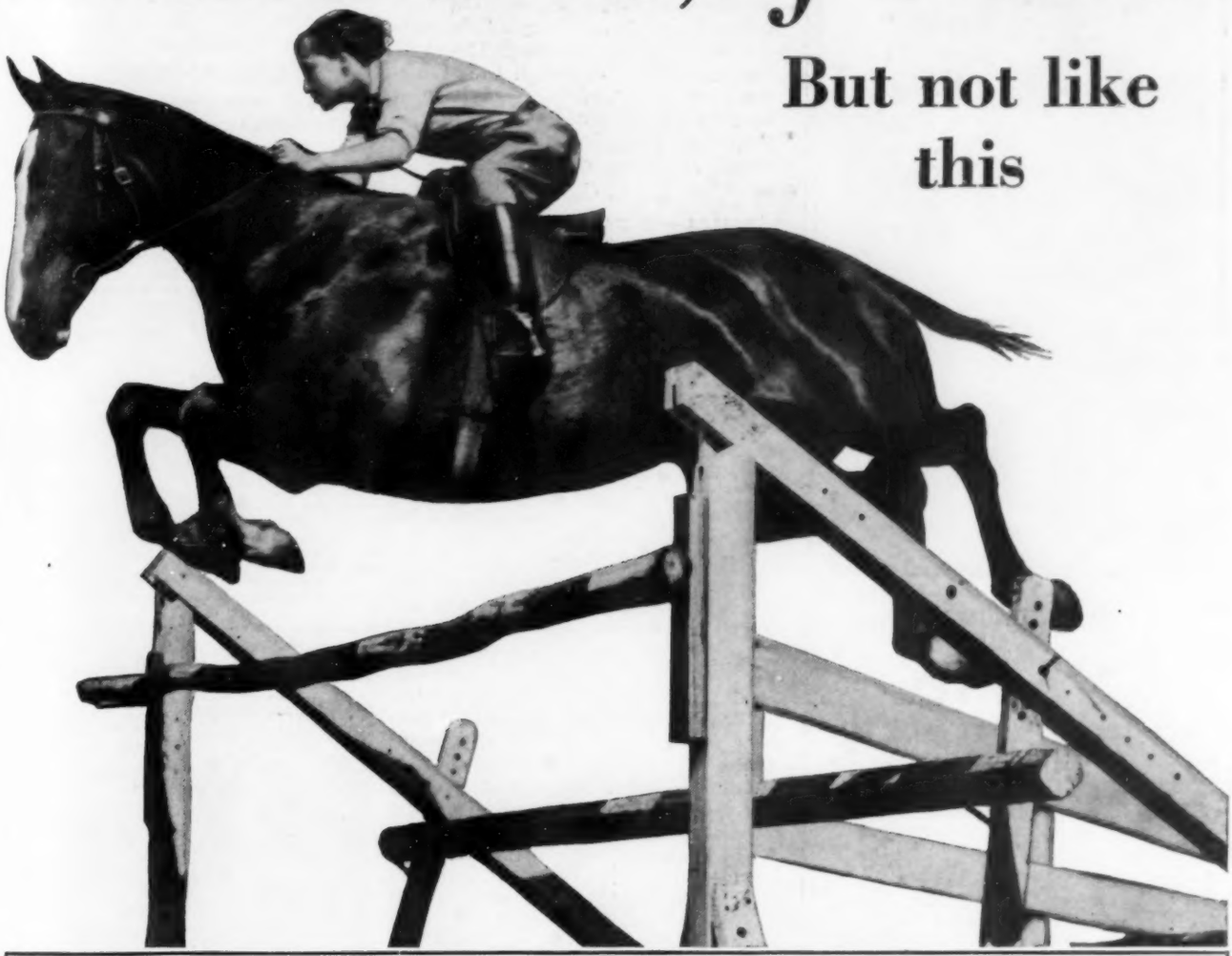
Answer.—The dermatitis described appears to be a case of sensitization, apparently caused by contact with chemicals handled in the professional work of the patient. A patch test, or skin test, carefully controlled, would in all probability reveal the offending agent. There may, however, be multiple sensitizations. Cases of dermatitis which persist for some time assume the common characteristics of what was formerly designated as professional eczema. Avoidance of contact with the sensitizing substances, together with bland local treatment prescribed by a physician, should clear up the condition.

Children are born and grow up in periods of depression as well as in periods of prosperity. It is impossible to arrest their developments. Roads and buildings may wait, but not the children.

—*Hon. Paul V. McNutt.*

We all do it, *of course*

But not like this



WE all put our systems "over the jumps," especially during vacation days. And sometimes the aches and pains that result are of more serious nature than we realize.

A "stomach-ache," for example. It may just be due to slight indigestion—but many times it indicates the beginning of a serious gastro-intestinal affection. In other instances it may not be caused by the stomach or intestines at all, but by the liver, gall-bladder, appendix—some condition that needs immediate diagnosis and treatment.

Whenever aches or pains persist, see your physician. Let him make a thorough investigation . . . Be sure an x-ray examination is made. For through the employment of the all-disclosing x-rays you may avoid serious, costly illness.

NRA CODE

Send for "X-rays and Health." It describes in detail how x-rays can help you to keep fit.

X-RAYS HELP TO KEEP YOU WELL

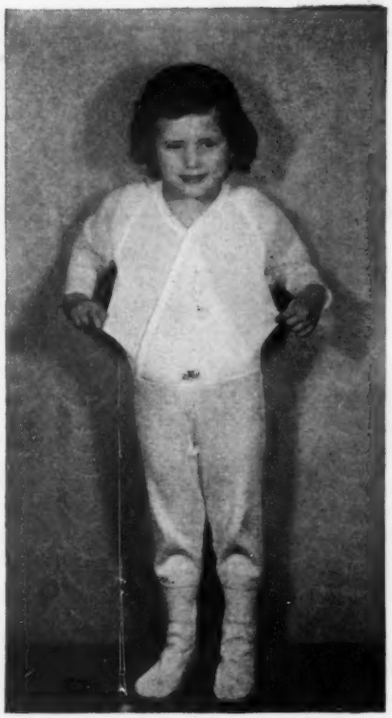
EASTMAN KODAK COMPANY, *Medical Division*
355 State Street, Rochester, N. Y.

Please send me a copy of "X-rays and Health."

Name_____

No. & St._____

City & State_____



For Complete Comfort

Vanta

SLEEPING GARMENTS

The new sleeping suit as illustrated has all the features advocated by doctors to insure uninterrupted sleep.

This new VANTA garment has a "slipper foot" with elastic ankle that holds it in place and yet provides plenty of room for utmost comfort.

VANTA Steam Sterilized layettes are Cellophane wrapped—have No Pins, No Buttons—and can be had with the Silva Lining, the exclusive VANTA fabric as soft as a kitten's ear.

When buying Baby Garments, ask for "Mothercraft Service"

Ask your store to have a graduate of the Mothercraft course of training wait upon you. It means a year of hard study which makes a girl a professional saleswoman on all Infants' Wear.

Earnshaw Knitting Company

Newton, Massachusetts

Vanta

BABY GARMENTS
NO PINS, NO BUTTONS

Absorption of Water in the Stomach

To the Editor:—"Biology For Beginners" by Moon and Mann bears the statement on page 526 that the stomach absorbs water. On the other hand, Dr. Harvey's "Human Anatomy" states on page 188 that "water passes (through the stomach) unabsorbed." Which authority is correct? How much intestinal fluid is secreted by the small intestine daily?

E. G., Connecticut.

Answer.—It was believed for a long time, on insufficient evidence, that water was readily absorbed in the stomach. Experiments made for the purpose of finding out definitely the actual amount of absorption of water in the stomach have shown that pure water is hardly absorbed at all. Von Mering connected a part of the duodenum just beyond the stomach with the skin of the abdominal surface in a large dog, in such a way as to permit him to recover from the duodenum whatever passed into it from the the stomach. After a period of fasting the dog was given by mouth 500 cc. of water, which was of course passed into the empty stomach. Within twenty-five minutes, 495 cc. was recovered from the duodenum. Even more was probably passed out of the stomach later. It is certain that practically none of the water was absorbed in the stomach. This is not true of alcohol, which was found to be absorbed rather readily.

The amount of fluid that is secreted into the intestine daily is difficult to determine accurately. It has been roughly estimated that 3 liters may be excreted into the lumen in the course of twenty-four hours by an adult man. In addition to this fluid, the liver pours into the intestine daily from 500 to 800 cc. of bile (cf. Howell, "Textbook on Physiology"). Luckhardt, Stangl and Koch, who had an opportunity to study the secretion of the pancreas, found that the average amount of pancreatic secretion was 667 cc. in twenty-four hours.

The liver and pancreas are derivatives of the intestine and pour their secretion into it. Therefore the total amount of secretion into the small intestine of an adult man would be about 4.25 liters each twenty-four hours.

ANNOUNCEMENT

Copies of "Your Physician" by Florence Fisher Parry, which appeared in the June issue, will be sent to the readers of HYGEIA, free on request, by Petrolagar Laboratories, Inc., Chicago. These copies are suitable for framing.

SEX EDUCATION

New Booklets by THURMAN B. RICE, M.D.

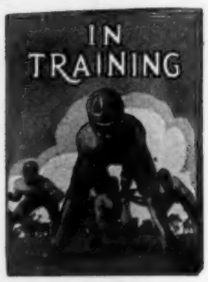
Modern without sacrificing fundamentals. Frank, but not sensational. Illustrated.

For Boys and Girls of Ten

How life comes from life—How flowers are born—Male and female functions in fish, frogs, turtles, birds, calves, colts, kittens and human beings—Simple facts about sex hygiene. **36 pages**

For Boys of High School Age

How sex influences every minute of life—Clean sports—The fun of hobbies—The miracle of life—Human mating—Purposes, physiology and hygiene of sex—How marriage protects the race. **48 pages**



For Girls of High School Age

Motherhood, the great career—How reproductive organs function—Menstruation, its physiology and hygiene—Athletics for girls—True feminine attractiveness—Going out with boys—Marriage. **38 pages**

For Both Sexes of College Age

Training for happy home life—Sex feeling of male versus female—Control: a mutual responsibility—Premarital understandings—Planning for parenthood—Ideal honeymoon—Two purposes of sex. **44 pages**

For Persons of College Age or Older

Prevalence of venereal diseases—Effects on individual and on society—Syphilis and its transmission—Protective measures—Symptoms and stages—Gonorrhea and other diseases. **40 pages**

Heavy paper covers *25 cents per copy*

Complete set of five in special filing case, $1.00

AMERICAN MEDICAL ASSOCIATION

537 North Dearborn Street Chicago

Do You Know—

1. That the doctor who is forced against his wishes to prescribe extemporaneously while on vacation may nevertheless be considered guilty of unethical conduct? *See page 583.*
2. What is regarded as the greatest single factor responsible for the great increase in sinus troubles in recent years? *See page 620.*
3. Why one should never take cathartics during an attack of acute appendicitis? *See page 609.*
4. What are the two important functions of the intestines? *See page 585.*
5. How the Labrador housewife supplements the vitamin deficiency in the family diet? *See page 628.*
6. The causes that contribute to nervousness in a child? *See page 622.*
7. That pyorrhea is a disease that dates back to the pre-stone age? *See page 632.*
8. What is the most frequent cause of infantile eczema? *See page 640.*
9. The treatment for reopening a closed eustachian tube? *See page 601.*
10. What are the essential foods to be purchased on a limited budget? *See page 625.*
11. Why salines and widely advertised "crystals" cannot possibly cure obesity? *See page 617.*
12. What are nature's warnings of the development of glaucoma? *See page 636.*
13. Who was the first patient to receive Pasteur's treatment for rabies? *See page 588.*
14. Why the name of Joseph Lister is rendered immortal in the annals of medicine? *See page 643.*
15. That there are more beds in this nation's hospitals for mental diseases than for all other diseases combined? *See page 598.*
16. The difference between hunger and appetite? *See page 592.*
17. What are the essential ingredients of good mayonnaise? *See page 604.*
18. The several ways in which a convalescent child, even though confined to his bed, may enjoy group play with other patients? *See page 594.*

Such a good baby! His mother uses this Waterproof baby powder

He would tell you, if he could, how grand it feels to be healthy and happy with never a trace of diaper rash or chafing from perspiration!

His tender skin is protected by Merck Zinc Stearate, the *waterproof* baby powder. This powder never combines with moisture to make an irritating paste, but forms instead a protective film that keeps out wetness and prevents discomfort.

Merck Zinc Stearate is a fine velvety-soft powder! The *self-closing* top on the can makes it impossible for mother or baby to accidentally spill the powder.

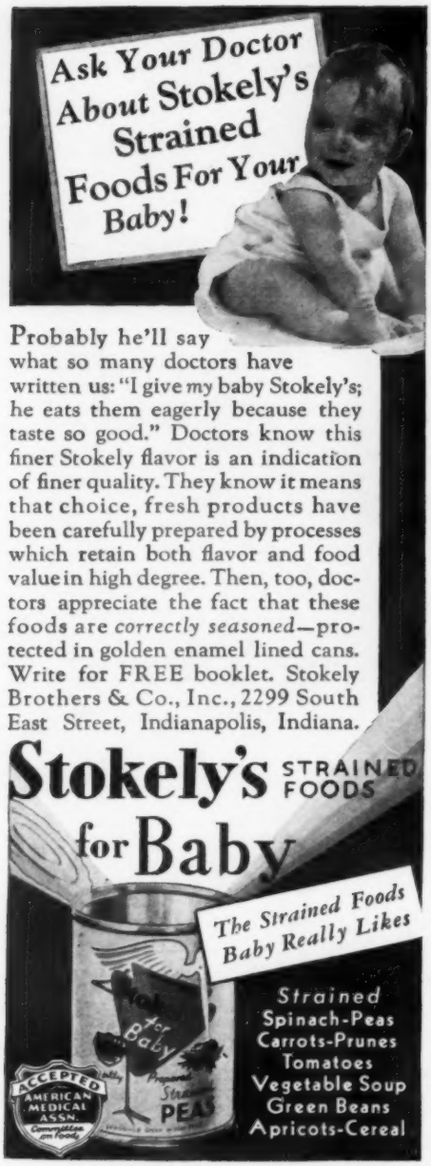
Your physician and druggist will tell you that the name Merck on any product is a guaranty of purity and reliability. Merck & Co. Inc., *Manufacturing Chemists*, Rahway, N. J.

MAKE THIS WATERPROOF TEST TODAY

Shake some ordinary powder into the palm of your hand. Then pour a little water onto the powder and rub gently with your finger. You will find that the powder absorbs the water and forms a paste. This happens when baby's skin is wet.

Now make the same test with Merck Zinc Stearate. You will find that this waterproof baby powder does not absorb the water—that the water stays on top in little round drops. That explains why Merck Zinc Stearate protects baby's skin.

MERCK ZINC STEARATE


Ask Your Doctor About Stokely's Strained Foods For Your Baby!
Probably he'll say what so many doctors have written us: "I give my baby Stokely's; he eats them eagerly because they taste so good." Doctors know this finer Stokely flavor is an indication of finer quality. They know it means that choice, fresh products have been carefully prepared by processes which retain both flavor and food value in high degree. Then, too, doctors appreciate the fact that these foods are correctly seasoned—protected in golden enamel lined cans. Write for FREE booklet. Stokely Brothers & Co., Inc., 2299 South East Street, Indianapolis, Indiana.
Stokely's STRAINED FOODS for Baby
The Strained Foods Baby Really Likes
Strained
Spinach-Peas
Carrots-Prunes
Tomatoes
Vegetable Soup
Green Beans
Apricots-Cereal
ACCEPTED AMERICAN MEDICAL ASSN.

The A.P.-UPLIFT

U. S. Pat. 1,702,922—Invented by Mme. Poix to create the stylish upward contour: to relieve pain and remove cause of many bust troubles: also for pre-natal and nursing periods.

Sizes 30 to 44

Mercerized Repp	$1.00
Flesh Tussah Silk	1.50
Flesh Mesh	2.00
Flesh Jersey	2.50

If not at dealers, order direct giving exact bust measure next to skin. Booklet free on request.

G. M. POIX, Inc.
103 Madison Ave.
New York, N. Y.

Excellent—LUCKY BREAKFAST FOOD—Nutritious
A FARINA—made from the CREAMY part of the WHEAT with FINE BRAN added.

For CHILDREN—Contains 0.7 per cent crude fiber which helps to counteract constipation due to insufficient bulk in the diet.

For ADULTS—Contains considerably more calories, weight for weight, than are found in eggs, white or whole wheat bread.

Accepted by American Medical Ass'n, Committee on Foods

FEDERAL MILL, INC., 400 Race St., Lockport, N.Y.

"SALTS" AND "CRYSTALS" QUACKERY

(Continued from page 619)

Dismuke's Famous Mineral Crystals.—This product was supposed to be crystals obtained by evaporation of the water at Mineral Wells, Texas, but the federal chemists showed that it did not represent the total nonvolatile material in that water. It was found to consist essentially of sodium sulphate (Glauber's salt), with small proportions of chlorides and magnesium compound. The government charged that the curative claims made for it were false and fraudulent, and the court sustained the charge (Notice of Judgment, 22956). May 28, 1934, the court ordered that the product be destroyed.

Georgia Crystal Compound.—This "patent medicine" was labeled so as to give the impression that it was obtained from the waters of Warm Springs, Ga., but it was found by the federal chemists to consist essentially of sodium sulphate (Glauber's salt). Some of the curative claims made for it were declared false and fraudulent (Notice of Judgment, 22638), and in June 1934, the court ordered that the product be destroyed.

Peerless Crystals.—This nostrum was labeled to convey the impression that it was obtained by evaporation from the waters at Mineral Wells, Texas, but when the federal chemists analyzed it, they found that its composition differed from that of the minerals obtained from such water and also differed from the analysis printed on the label. The chief ingredient, as might have been expected, was found to be "horse salts" (sodium sulphate), with a small proportion of table salt and epsom salt. Claims made for the curative value of the preparation were declared false and fraudulent (Notice of Judgment, 22958), and in August 1934, the court ordered that the product be destroyed.

Warm Springs Crystal Compound.—This was labeled so as to lead the public to believe that it consisted of the minerals obtained by evaporating water from Warm Springs, Ga., but analysis showed that it had not been produced from such water. It consisted essentially of Glauber's salt, and the product was declared misbranded under the National Food and Drugs Act (Notice of Judgment, 22613) both because of the falsehoods regarding the composition and the fraud regarding its alleged curative effect. Various seizures of the nostrum in April, June and September, 1934, came before the courts, and the product was ordered destroyed.

SCIENCE BRINGS BACK THE PRODIGAL POTATO

When the country went dietetic, the potato fell among thieves who robbed it of every mite of its virtue except as a source of calories, which almost every one is seeking to avoid. The national anthem became, "one vegetable, not potatoes, at each meal." "The potato is too starchy," said some who forgot that starch is one of the most valuable sources of energy. "The potato is fattening," those of bulging waist-lines were told. Other theorists said that the potato is deficient in vitamins and minerals, that it is acid producing, that it is hard to digest and favors gas formation, and that it is too white and that white foods are not best.

But now science comes to the rescue of the potato, according to a writer in the monthly bulletin of the Indiana division of public health. Recent research shows that potatoes still retain much of their vitamin C even after they are cooked. They are rich in vitamin B when the peel is left on and are not entirely deficient in it even when they are peeled. It is learned that the potato is not hard to digest and, when properly prepared, may be given to young children; for young children, potatoes should be mashed fine and served with milk. The potato is not acid forming. No less an authority than Hess has said that the potato is an excellent scurvy preventive. When the potato is well baked and served with milk, as potato porridge, it can be given even to small babies.

BREAD AND MILK

In times of economic depression, bread is literally the staff of life. "Build the dietary around bread and milk" is a maxim quoted with approval by such a leading authority as Prof. Henry C. Sherman of Columbia University. Dr. Sherman, who has written much excellent advice on emergency nutrition, recommends that the family budget in times of economic stress be devoted to expenditures for these three essential groups of foods:

1. Milk and its products,
2. Fruits and/or vegetables and
3. Bread and other cheap sources of calories.

—*Food Facts.*

ANNOUNCEMENT

The radio broadcasts sponsored by the American Medical Association will be discontinued during July, August and September. They will be resumed in October. Further announcements will appear in the October issue of HYGEIA.

CAUSES AND TREATMENT OF ASTHMA VARY WITH INDIVIDUAL

Every asthma patient constitutes an individual problem, and there is no stock remedy for the disease according to an article which appeared in a recent issue of *The Journal Lancet*. Symptoms consist of unusual sensitiveness to various types of stimulation which are harmless to the normal person. The patient having this disease might be compared to a loaded gun with many triggers. How to unload the gun is not known, but a great deal can be done to prevent its accidental discharge. Multiple exciting agents, or triggers, are important in all cases, although the importance of each may vary with individual cases. Those exciting agents are classified as specific and nonspecific. The specific agents include (1) substances which can be inhaled, such as pollens, animal danders, feathers, dusts and molds; (2) things taken internally, such as foods and drugs, and (3) bacteria. Among the general agents are emotional influences, exhaustion states, infection, and mechanical and chemical excitants.

The earlier in life that asthma appears, the more likely is the patient to be hypersensitive, and asthma which appears after the age of 45 is seldom the result of specific hypersensitiveness. In cases where hypersensitiveness does exist, the patient is usually sensitive to those substances to which he is most exposed; pollens are most important, animal danders and feathers next, and foods least.

The value of skin tests varies in about the same ratio; that is, tests with pollens were shown to be the most reliable; animal danders and feathers stood next in reliability, and foods gave the most disappointing results. The following rules help in keeping tolerance:

1. Control coughing during asthma attacks. It has been discovered that coughing only increases the bronchial spasm. Though it is difficult at first, this lesson once learned helps lighten or even avert attacks.

2. Avoid too much exertion of any kind, such as fast walking or climbing stairs.

3. Avoid emotional outbursts, such as convulsive laughter or extreme anger, as these are apt to bring on an attack.

4. Do not stand by open windows during an attack, as the cold air increases bronchial spasm and chills the skin. Rather get into bed in a warm bedroom where there are no drafts.

5. The last meal during the day should be very light.

While you give them an Education . . . KEEP THEIR

EYES Unimpaired

DESPITE the splendid eye-protection work of School Health Departments, it still remains true that defective sight increases directly in proportion to the time devoted to studies.

Typical positions of books, body and eyes during school work cause visual strain and permanent defects . . . unnecessary penalties for educational progress.

The probability that good vision will survive school years is increased by use of American Universal Better-Sight Desks. *Eyestrain is minimized* by features which enable the pupil to study in erect posture with book supported at correct height, focal distance and angle of vision—and with the page effectively illuminated.

The American Universal BETTER-SIGHT DESK

In every community, public cooperation in replacement of obsolete types of school desks will be of assistance to educators who thus seek to protect the physical and mental welfare of school children.

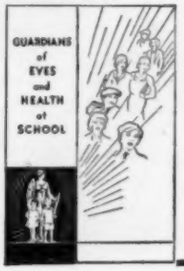
American Seating Company

Makers of Dependable Seating for Schools Churches and Public Auditoriums

General Offices: Grand Rapids, Michigan

DISTRIBUTING BRANCHES IN ALL TRADE AREAS

Send For



If you have a child at school, or will have, you need this interesting, enlightening booklet. Fill in and mail the coupon for a free copy.

American Seating Company (H7)
Grand Rapids, Michigan

Please send me, without cost or obligation, a copy of your booklet, "Guardians of Eyes and Health at School."

Name_____

Street Address_____

City_____ State_____

GENUINE TAKAMINE
reaches both INNER and OUTER Dental Arch . . . . .

- BUT -
BE SURE YOU GET THE GENUINE!

Be SURE you use a TAKAMINE for most effective tooth cleansing. (TAKAMINE is the type recommended by Dr. W. M. Gardner in Hygeia article, Oct. 1934). Because TAKAMINE, with small scientific head reaches ALL tooth surfaces and acts as a stimulating agent for the gums; fine quality TAKAMINE bristles, properly spaced and shaped, stay in PERMANENTLY and hold necessary firmness; TAKAMINE bamboo handle won't be distorted from proper brushing shape; entire brush sterilizable in boiling water. BEWARE OF CHEAP IMITATIONS!

SPECIAL OFFER TO HYGEIA READERS—

TAKAMINE CORP.
132 Front St., New York City
I enclose 60c for Introductory Package of 6 TAKAMINE TOOTHBRUSHES (reg. 75c).
Name .....
Address .....
.....

The SEX TECHNIQUE
IN MARRIAGE • By I. E. Hutton, M.D.

"Dr. Ira Wile describes the book as a clear, succinct, non-emotional, authoritative and conservative exposition of the practical factors involved in making marriage successful on the sexual level. That describes the book exactly . . . It is primarily concerned with the conduct of the honeymoon and with the technic of the sexual performance." —Hygeia.

Acclaimed by the Medical Press Everywhere

At bookstores or direct from **Price $2.00**
EMERSON BOOKS, Dept. 119, 333 Sixth Ave., N. Y. C.

2 NEW NIPPLE SHAPES

One of these 3 shapes will fit your baby's mouth and reduce windsucking. Assures uninterrupted and contented feeding.

Avoid Dirt — This large nipple is safest, as it is easily inverted and cleaned.

HYGEIA
The Safe Nursing Bottle

WHEN WRITING ADVERTISERS PLEASE MENTION HYGEIA

EYE DISEASES IN ADVANCED AGE

(Continued from page 639)

the disease. The means here employed are medical and surgical. The choice of one or the other, or of using the two in conjunction, must rest with the physician in charge of the case. The decision must be made and carried out after all the considerations involved have been duly weighed. Sometimes an early operation is the best means of arresting the disease.

This is to be remembered: Glaucoma is a lasting disease, a problem that is present as long as life lasts. No matter how favorable the turn is, the patient must be periodically examined by the physician for a check up on the condition; the frequency of examination will depend on the state of the eye.

In the periodic check up there are five important points to determine: the presence or absence of pain, and other subjective symptoms, such as rainbow rings about lights; the amount of vision; the measurement of the visual fields; the size of the pupil, the smaller the better; and the tension of the eye, measured by an instrument called the tonometer. By these points the nature and frequency of the treatment is determined and guided from period to period.

When the disease is under control, the refraction should be reexamined at frequent intervals and glasses should be worn as indicated. Many grave relapses result from discontinuing the care and treatment when everything goes well. In such relapses the pupil flares wide open; rainbow rings appear again; the sight is again dimmed, and an acute attack is brought on.

Of great importance too is the general health, freedom from care, sufficient sleep, plentiful rest for the eyes, moderate meals, good elimination and avoidance of any form of excitement or disturbance. It can readily be seen that informative education along these lines is an essential weapon to combat and to cure glaucoma. Ignorance means blindness; knowledge brings light and the possibility of cure.

Secondary glaucoma is the result of a previous iridocyclitis, of a cataract or of any disease that shuts off the drainage from the eye. The symptoms are essentially the same, but they are modified by the preexisting disease. The prevention and treatment are those of the original condition combined with the measures for the prevention and treatment of circumstantial and symptomatic complications. Glaucoma as it affects infants has been described in a previous chapter.

[NOTE.—In the August issue, Dr. Cohen will discuss first aid in injuries to the eyes.]

CRIPPLED CHILD NEEDS SPECIAL HOME TRAINING BEFORE MATURITY

On reaching maturity, the average physically handicapped person receives a terrific mental shock with the realization that he is not capable, in the estimation of the normal world, of occupying a normal position in society. The situation, as described in *The Crippled Child,* is the result of incorrect early training of the crippled child in the home.

Brought up among the normal members of his family, the permanently crippled child believes he will be accepted as a social equal, should he desire to make outside contacts.

Society does not hesitate to make the crippled individual know he is different from other people, socially as well as physically. Thus the small amount of self confidence he has succeeded in building up for himself through the early years of life is ruthlessly snatched from him. With the breaking down of morale, the entire course of his life is inevitably changed.

The problem must be solved, not by those of the social world or by the cripple himself, but by the parents in the course of early home training.

Teaching the child to ignore his handicap and teaching him to look the situation squarely in the face are two altogether different things. In the first instance the crippled child reaches maturity expecting the impossible, only to have his life wrecked with disappointment; while in the second instance the handicapped person is partially prepared for what the future may hold. He is then ready for a somewhat altered but satisfactory entrance into society.

A SUCCESSFUL MAN

The man is a success who has lived well, laughed often and loved much; who has gained the respect of intelligent men and the love of children; who has filled his niche and accomplished his task; who leaves the world better than he found it, whether by an improved poppy, a perfect poem or a rescued soul. Who never lacked appreciation of earth's beauty or failed to express it; who looked for the best in others and gave the best he had. His memory is a benediction.

—Robert Louis Stevenson.

On the use to which parents put their own leisure largely depends the success of their children's education.—*John Langdon-Davies.*

NEGLECTED COLDS MAY RESULT IN SERIOUS COMPLICATIONS

How should one treat a cold? When your nose stops up and your eyes burn, your head hurts and your face feels hot, you ache all over and your hands and feet feel heavy as lead, what should you do?

This query is answered in the *Weekly Bulletin* of the California department of public health:

"Go home and go to bed, and stay there until your fever is gone and the symptoms subside. Take a good hot soak in the bath tub, drink plenty of water, and take only those medicines that your doctor recommends. Remember that a cold itself is seldom a serious matter, but it may be followed by serious consequences. Keep away from your family and friends as much as possible, and sneeze or cough only in your handkerchief. Be particularly careful about chilling the body surfaces, getting the feet wet, sitting in a cold draft, etc."

Cold vaccines will not cure a cold that has already started, but sometimes they appear really to aid in the prevention of a cold. To be of any value, the cold vaccines must be taken before the season for colds has begun. Most of the home remedies for colds do no harm and help make the patient more comfortable, but there is no real evidence that any of them cure a cold or even cut short the period of illness.

Pneumonia is the most serious result of a cold. Not infrequently it follows some careless exposure or neglect by a person who has had a bad cold. Chronic colds are nearly always caused by an infection of one of the nasal sinuses and require medical attention. If the cough continues long after the cold has passed, if the patient loses weight and feels generally run down, he should go to a doctor immediately for examination. The symptoms may indicate an early stage of tuberculosis.

The first step in the prevention of colds is to avoid contact with those suffering from acute colds, particularly during the first three days of the disease.

Some exposure is unavoidable. There are a few rules to follow, however. The living quarters should have suitable temperature and humidity. The body surface should be kept warm and dry.

Many people believe that alcohol is of value in preventing colds. Its use causes flushing of the skin and great loss of heat.

Improving the general body condition through the use of proper foods, including cod liver oil, has been found effective both in the prevention and in the treatment of after-effects of colds.

"THE MINIMUM OF MILK A DAY SHOULD BE A QUART FOR CHILDREN"

CLARENCE W. LIEB, M. A., M. D.
"THE INDISPENSABLE FOOD"
Courtesy Crowell Publishing Co.

Cocomalt *mixed with milk* **provides almost twice** *the food-energy of milk alone*

NO MOTHER needs to be told how important milk is for the growing child. Doctors have long emphasized its value in the daily diet of all children.

When Cocomalt is mixed with milk as directed it provides growing youngsters with a rich supply of Sunshine Vitamin D and 70% more food-energy than milk alone. A pure, wholesome, nourishing food such as Cocomalt can play an important part in the physical development of your child. Every child needs proteins for developing muscles, carbohydrates for food-energy for supporting the energy demands of the body for work and play, food-calcium and food-phosphorus plus Sunshine Vitamin D for building strong bones and sound teeth.

Supplies important food essentials

Cocomalt is a delicious food product that supplies the food essentials just mentioned. Prepared according to directions, Cocomalt increases the protein content of the milk with which it is mixed 50%, the carbohydrate content 170%, the food-calcium content 35%, the food-phosphorus content 70%. In addition Cocomalt is rich in Sunshine Vitamin D, which milk alone does not usually provide.

Cocomalt is sold at grocery, drug and department stores in ½-lb. and 1-lb. air-tight cans. Also in the economical 5-lb. hospital size. In powder form only, easy to mix with milk—delicious HOT or COLD. High in food-value, economical in price.

SPECIAL TRIAL OFFER: For a trial-size can of Cocomalt, send name and address (with 10c to cover cost of packing and mailing) to R. B. Davis Co., Dept. JA 7 Hoboken, N. J.

Cocomalt

Prepared as directed, adds 70% more food-energy to milk

Cocomalt is accepted by the Committee on Foods of the American Medical Association. Prepared by an exclusive process under scientific control, Cocomalt is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Sunshine Vitamin D. (Irradiated ergosterol.)

PEDESTRIANS ARE CHIEF VICTIMS IN 1934 AUTO TOLL

Pedestrians paid the highest price in the death toll taken last year by automobiles in the United States. Approximately 16,000 of the 36,000 persons killed were pedestrians, according to statistics compiled by the Travelers Insurance Company.

Five of every eight pedestrians killed were crossing streets in the middle of the block, crossing intersections against traffic signals, darting out from behind parked cars or walking along rural highways.

Of the million persons injured in 1934, 143,000 were children between the ages of 5 and 14 years, the tabulations showed. Those who died under motor wheels numbered 3,800. Nearly 1,500 children under the age of 4 years were killed and 39,000 injured in accidents during the year.

High speed driving is cited in the report as the dominant factor in the seriousness of auto accidents in 1934.

Another unfavorable aspect of the problem was the great number of fatal accidents during the night hours. During the year there was not one of the twelve normal hours of darkness in which the rate of death per accident was less than during the daytime hours. The death rate at night was 51.4 per cent worse than during the day.

Available records for 1934 show that 3.16 per cent of the drivers in accidents were declared to have been under the influence of intoxicants, as against 2.43 per cent in 1933, a one-third increase.

Excluding such factors as exposure to traffic hazards and miles driven, 34 per cent more men drivers than women drivers were involved in fatal accidents.

By careful operation, drivers can prevent many accidents; this was indicated by the fact that the fatal accident record in stormy weather was better than the average of all accidents combined in 1934.

In clear weather, however, the ratio of fatal accidents to total accidents was worse than the average.

Rightly understood, sex may be the most constructive force in human existence. Misunderstood, it can devastate the world. As negative and positive electricity together furnish the spark that is the generating power of enormous activities in the world, so the right union of man and woman can furnish the spark that generates still greater activities in the world of mind and spirit.—*Olive Beaupré Miller.*

Schools and Camps

STUTTERING CORRECTED

Stuttering and stammering, delayed speech, indistinct speech and baby talk, post-operative cleft palate speech, disorders of speech due to partial deafness, corrected. An ethical school.
WILSON SCHOOLS, Arnold Place, Dayton, Ohio

Schools for Exceptional Children

Beverly Farm, Inc. Home and school for nervous and backward children and adults. Successful social and educational adjustments. Occupational therapy. Dept. for birth injury cases. Healthfully situated on 220-acre tract, 1 hr. from St. Louis. 7 well-equipped buildings, gymnasium. 37th year. Catalog. Groves Blake Smith, M.D., Supt., Box H, Godfrey, Ill.

DEVEREUX SCHOOLS

Devereux Tutoring Schools, separate buildings, boys, girls. Individual programs; social training stressed. Camp at North Anson, Maine. Devereux Farms, Glen Moore, Pa., with industrial shops for young men over 16; cultural lectures, music, athletics. Helena Devereux Fentress, Director, Executive Office, Box A, Berwyn, Pa.

<> TROWBRIDGE TRAINING SCHOOL <>

Home school for nervous, backward children. *Best in the West.* Beautiful buildings. Spacious grounds. Experienced teachers. Individual supervision. Resident physician. Enrolment limited. Endorsed by physicians, educators. Booklet. E. Haydn Trowbridge, M.D., 1810 Bryant Bldg., Kansas City, Mo.

THE SYLVESTER SCHOOLS

For boys and girls whose progress has been hindered or retarded by illness, nervousness, speech defects or inability to adapt themselves to the usual form of instruction. Birchmont, new hall for girls. Illustrated catalog. 3419 Grand Avenue, Des Moines, Iowa.

"A Child is to be Born"

Of the most absorbing importance to expectant mothers

AN ENCOURAGING AND SYMPATHETIC BOOKLET 15c

American Medical Association · Chicago

F. & R.'s GENUINE GLUTEN FLOUR
Guaranteed to comply in all respects to standard requirements of the U. S. Department of Agriculture.
Manufactured by THE FARWELL & RHINES CO. Watertown, N.Y., U.S.A.

F. & R.'s GENUINE WHOLE WHEAT FLOUR
100% Nothing added—Nothing taken away
Manufactured by THE FARWELL & RHINES CO. Watertown, N.Y., U.S.A.

F. & R.'s GENUINE GRAHAM FLOUR
A real old-fashioned, honest-to-goodness Graham Flour; exactly like that made by Dr. Graham
Manufactured by THE FARWELL & RHINES CO. Watertown, N.Y., U.S.A.

MENTAL HYGIENE ANSWERS THE QUERY: WHAT IS MENTAL HEALTH?

Not long ago "mental hygiene" was synonymous with mental disease or insanity. If any one in the family had mental illness, the fact was considered embarrassing and was hidden from one's friends. During the past ten years the public has been learning that there are degrees of mental health just as there are degrees of physical health, it was pointed out recently in an article appearing in the *Mental Health Bulletin* of the Illinois Society for Mental Hygiene.

People may recover from mental disease in part or entirely. The care they get depends on their ability to make adjustment in the community. On the other hand, many so-called mentally healthy people actually have many unhealthy mental habits.

A common maladjustment is evading unpleasant things. This is a natural tendency in childhood, but continuing the practice is not a constructive, wholesome way of facing life. It is not necessary to look for unpleasant situations, but when they come our way we should be able to face them effectively.

Indecision is another problem of mental health. Because it varies with different people according to their early training, the problem is difficult to trace to its source. Indecision indicates lack of integration of personality and is a difficult problem to overcome. It is closely tied up with another problem, that of the feeling of inferiority.

Another devious mode of behavior is called by the psychologists, rationalizing. All of human existence is an effort to behave in a way acceptable to other people.

As we grow into adult life, the attitudes developed in childhood remain. One of the most typical reversions to childish behavior is known as temper tantrums. Domestic inharmony is the result.

Less apparent but more serious maladjustments are those of the overtimid persons who become the willing slaves of the family.

It is important to realize that all forms of behavior are natural under various circumstances; also, that the foregoing problems do not result in serious mental ill health but simply retard the attainment of pleasure and success in life.

We do not yet sufficiently realize the truth that as, in this life of ours, the physical underlies the mental, the mental must not be developed at the expense of the physical. —*Herbert Spencer.*

INDIGESTION AND LOSS OF WEIGHT ARE TUBERCULOSIS SYMPTOMS

The four danger signs of tuberculosis are easy fatigue, loss of weight, indigestion, and a cough that hangs on; and these must be respected if one would avoid the disease, according to a pamphlet recently published by the National Tuberculosis Association.

A cough that hangs on is a flashing red light that should never be passed. Cough from a simple cold soon disappears, but one that clings for ten days or more is probably due to some other condition. Sometimes there may not be a cough, merely hoarseness, tickling of the throat, or the urge to clear the voice frequently. This too is a warning of danger.

There are other signs also, such as the expectoration of blood, sharp pains in the chest, nervousness, disturbed sleep and a rundown condition. Poor appetite, indigestion and loss of weight usually go together. A relish for food is a good general sign of health. Loss of weight soon follows indigestion. Sometimes the first sign to attract attention is loss of weight, and then the person remembers that his appetite has been poor and that he has had some indigestion. Neither poor appetite nor indigestion is a disease, but both are danger signs and they may mean tuberculosis.

Sharp pain in the chest may be due to pleurisy, and this must never be passed over lightly. In adults, pleurisy is usually early tuberculosis, though of course there are other pains in the chest that are not caused by pleurisy. Nervousness, disturbed sleep, a run-down condition, in fact any departure from health, calls for an examination by the doctor.

While tuberculosis usually attacks the lungs, other parts of the body too may be damaged by it. In young people especially, the bones and joints may suffer. This may result in crippling such as hunchback or a stiff knee, hip or elbow. Tuberculosis of the glands of the neck is not so common as it once was. Tuberculosis sometimes attacks the intestines of a person who has the disease in the lungs. Skin tuberculosis is rather uncommon in this country. The kidneys and the bladder, the eyes, the ears, in fact any part of the human body may be attacked by the tubercle bacillus. Whatever organ is attacked, the general treatment is rest for the whole body, and in addition the doctor usually employs special measures in treating the organ or part diseased.

ACCEPTED AMERICAN MEDICAL ASSN. Committee on Foods

PROTECT YOUR BABY

with foods 57 you know are safe!

GIVE baby the food values your doctor wants him to have! Give him Heinz Strained Foods—and play safe! For Heinz Baby Foods bear the Seal of Acceptance of the American Medical Association's Committee on Foods. Ask Doctor. He knows that prepared foods which have been accepted by the Committee can be relied on for desired nutritional values.

If you could watch Heinz Strained Foods being prepared, you would never again spend long hours in your kitchen, cooking and straining baby's food! And when you open a tin of Heinz Strained Foods, you'll know that these luscious puréed vegetables are just as fresh from the garden—possibly even fresher—than the foods you yourself prepare.

Try Heinz Strained Foods today. They're surprisingly economical!

HEINZ STRAINED FOODS

9 KINDS—1. Strained Vegetable Soup. 2. Peas. 3. Green Beans. 4. Spinach. 5. Carrots. 6. Tomatoes. 7. Beets. 8. Prunes. 9. Cereal.

GET THIS BABY DIET BOOK

The new book *"Modern Guardians of Your Baby's Health"*, contains many up-to-date facts regarding the various vitamins and mineral salts. Also information on infant care and feeding. Send labels from 3 tins of Heinz Strained Foods or 10 cents. Address H. J. Heinz Company, Dept. A-65-B Pittsburgh, Pa.

MUSIC MAY BE VALUABLE IN MENTAL TREATMENT

The use of music in mental treatment is as old as the pyramids, for musical sounds as a definite means of psychotherapy were used by the Egyptian priests, as well as by the Greeks, Persians, Romans, and in the Middle Ages more especially by Arabian physicians. But while to the primitives, music was a form of magic and to others a revelation of divine forces, today, in the light of modern physics, psychology and medicine, music is understood as a type of sound vibrations to which some mental patients respond in ways that help to improve their conditions.

The usefulness of music as a system of psychiatric treatment is not an artistic but a medical question, it was pointed out in a recent broadcast under the auspices of the Welfare Council of New York City. This usefulness depends on a patient's particular reaction to and interest in music and on the medical need for such a stimulation.

There are three responses that the mental patient may make to music stimulation. The rythmic stimuli set up muscular tensions that seek an immediate release through physical motion, such as clapping the hands or stamping the feet. Such physical experience might help to pull a patient out of morbid fancies and draw his attention to things happening around him, although in some cases such stimulation should not be used as it would lead to exhaustion.

The second major response is the emotional one. Various types of musical composition awake various moods in patients. It is impossible to generalize in discussing musical treatment, however, for while a classic song might soothe one patient into a restful mood, it might irritate another.

The third important response is the associatal response. The fact that music stimulates processes of thought, of both memory and fantasy formation, makes it evident that such stimulation may cause all kinds of mental experiences and impulses. For instance, listening to certain music may result in needed breaking down of inhibitions and resistances, in the awakening of a desired physical and mental impetus, and lead to thoughts and actions of a more courageous and constructive nature.

Music as applied today in mental hospital treatment may be prescribed, according to the needs of the individual case, as rhythm work, singing, instrumental playing, dancing, music appreciation, theory, or harmony.

Coming

In the August HYGEIA

◆

ALLERGY

Dr. Lee D. Cady explains "That Curious Thing Called Allergy," an abnormal sensitivity to various substances which can cause discomfort and illness, such as hay fever, asthma, hives, and certain eczemas and contact dermatitis.

◆

NERVOUSNESS

Are you nervous? Do you have a nervous child? If so, you'll want to read Dr. Joseph H. Leiner's explanation of why children, adolescents and adults are nervous—and how it may be prevented in each case.

◆

ANEMIA

A pale look necessarily does not mean anemia. Dr. Raphael Isaacs and Agnes W. Isaacs bring out this fact in their enlightening article on "Some Popular Fallacies about Anemia."

◆

DANCING

At what age should a child start dancing? And how can one choose the right dancing teacher? Mothers will find these and other questions answered in Lucile Marsh's 2-part article, "What Should Your Child Dance?" beginning next month.

◆

ANIMALS

"When Children and Animals Mix" there is a possibility of sick pets transferring their diseases to the children. Dr. George A. Skinner points out how such danger may be reduced.

◆

AND ALSO

Interesting and worthwhile articles on "Heart Disease after Middle Age," "Foods in Hot Weather," "Abscessed Ears and 'Mastoid,'" "Injuries and First Aid to the Eye," and "Diet and the Teeth."

If you are not already a subscriber to HYGEIA, begin your subscription with the August issue. One dollar will bring the magazine to you for the next six months.

Introductory 6 months of HYGEIA $1

Regular Subscription $2.50 a Year

AMERICAN MEDICAL ASSOCIATION H-7-35
535 North Dearborn Street, Chicago.

I am enclosing $1.00 for an introductory 6 months' subscription to HYGEIA, The Health Magazine. I am a new subscriber.

Name.....

Address.....

ACQUIRE PEACE OF MIND AS AID TO NORMAL DIGESTION

There is much truth in the statement, "Laugh and grow fat; worry and grow thin," according to a writer in *Scientific Monthly*. While it is wrong to gain the impression that anxiety and worry cause all digestive troubles, still facts show that peace of mind and comfort are exceedingly important for normal digestion. It has also been shown that mental discord and worry disturb normal digestion and may serve as the background for the development of certain diseases of digestion. In this connection it is a fact that deaths from gastric ulcer have increased 25 per cent among white men since the start of the depression in 1929, and it is certain that altered physiology of the stomach is concerned in the cause of gastric ulcer.

To stop worrying would be easy advice to give for the solution of these digestive troubles, but that is not possible for the busy man or woman with many responsibilities. Such persons should, however, teach themselves to forget their responsibilities and worries for brief periods at least. As one trains oneself to shoulder responsibilities, so can one train oneself to forget them. It can be done. It is good to take oneself seriously but not so seriously that it interferes with one's health and sense of humor.

The second part of the solution lies in learning to relax the body muscles at will. Learning to forget worry for a brief period and to relax the body muscles are processes which are closely associated. When one is worried, the body muscles become tense and may remain tense even when one is sitting or lying down. Fresh air, exercise and noncompetitive play assist one to forget and to relax.

Finally, during a day fraught with business worry, wrangling, mental or nervous strain, or at times when it is impossible to forget and to relax, one should postpone the meal until strong emotion has passed, fatigue has lessened, calm has been restored and appetite has returned, or one must eat lightly of foods that are easily digested and emptied from the stomach, such as soups, cereals, puréed or mashed cooked vegetables, or what physicians call a soft diet.

Chronic rheumatism is a health problem that has had practically no public attention and is one of the greatest single causes of chronic ill health.

TEACHERS SHOULD KNOW FIRST AID RULES

Teachers should learn first aid rules so that in the absence of the school nurse they will be able to aid those who have been injured. The following are excerpts from the rules which have been set forth in the Red Cross First Aid Textbook:

1. In case of severe injury resulting in broken bones, loss of consciousness or continuous bleeding, send for the nearest doctor at once, and notify the principal and the parents.

2. Never allow a child to return home unescorted after illness or injury. If the parents or neighbors cannot be reached by telephone and asked to come for the child, an older pupil should accompany the child if none of the teachers are free.

3. "Standing orders" from the school doctor or the local medical society should be secured to cover procedure in giving first aid treatments.

For scratches and abrasions, wash the broken skin gently with cotton dipped in green soap solution or alcohol. Allow the area to dry, and paint it with iodine. For bumps and bruises, apply cold wet compresses. Never touch open wounds with the fingers, and do not touch the surface of gauze that is to be next to a wound. Flush the wound with green soap solution or clean it gently with cotton soaked with alcohol. Cover the wound with a sterile gauze compress, and bandage it. Iodine may be applied to a shallow cut; after the cut has been allowed to dry, it should be bandaged lightly.

Large splinters may be removed with sterile forceps, and small ones may be teased out with a needle that has been held a moment in a flame and cooled. Paint the affected part with iodine. Do not attempt to remove a deeply embedded splinter. Apply cold wet compresses for strains and sprains, and rest the injured part.

To stop nosebleed, have the patient sit up, with the head back; apply a cold compress to the back of the neck; place a moist cotton wad under the upper lip, and press against the nostril. During a nosebleed, the nose should not be wiped or blown. Keep a child who has fainted in a recumbent position with the head low, and give him plenty of fresh air.

"Health is a great matter, both to the possessor of it and to others. There is no kind of achievement you could make in the world that is equal to perfect health."—*Carlyle.*

Wise Mothers Welcome This!

Krim-Ko gives you your money's worth in food value. Figured cent for cent there is more food value in Krim-Ko than in dozens of foods continuously put on the average table.

Krim-Ko is rich in tooth-building, bone-building calcium. Krim-Ko is an excellent between-meals drink. It helps to satisfy the desire for something sweet and to prevent the excessive use of candy.

ACCEPTED AMERICAN MEDICAL ASSN

If there is not a Krim-Ko dairy in your town, write to the Krim-Ko Company, 4830 S. Turner Ave., Chicago, Ill., and give us the name of your milk dealer.

Krim-Ko is chocolate flavored, sweetened, partially defatted milk (Added tapioca—salt).

KRIM-KO

REG. U.S. PAT. OFF.

•CHOCOLATE FLAVORED DRINK•

Health Material Published by the A. M. A.

Free Catalogue Medical and Health Publications for the Layman **Price List**

American Medical Association, 535 N. Dearborn Street, Chicago, Ill.

PLEASE MENTION HYGEIA WHEN WRITING ADVERTISERS

The NEW **DAVIDSON** No-Colic **SCREW-ON** Nipple PATENTED

You can recommend this SANITARY, MODERN NIPPLE with perfect confidence. Sterilizing does not harm it. It can't collapse. Firm rubber base will not crack or split. Fingers never touch inside of nipple or neck of bottle. BABY CAN'T GET IT OFF—yet easy to put on or take off with a twist of the fingers. At leading drug stores. Write for professional sample nipple and bottle.

Davidson Rubber Company
Founded 1857
Boston, H Mass.

Physiologic Birth Control

THE RHYTHM
Of Sterility and Fertility in Women

A Discussion of the Physiological, Practical and Ethical Aspects of the Discoveries of Drs. K. Ogino (Japan) and H. Knaus (Austria) Regarding the Periods When Conception is Impossible and When Possible.

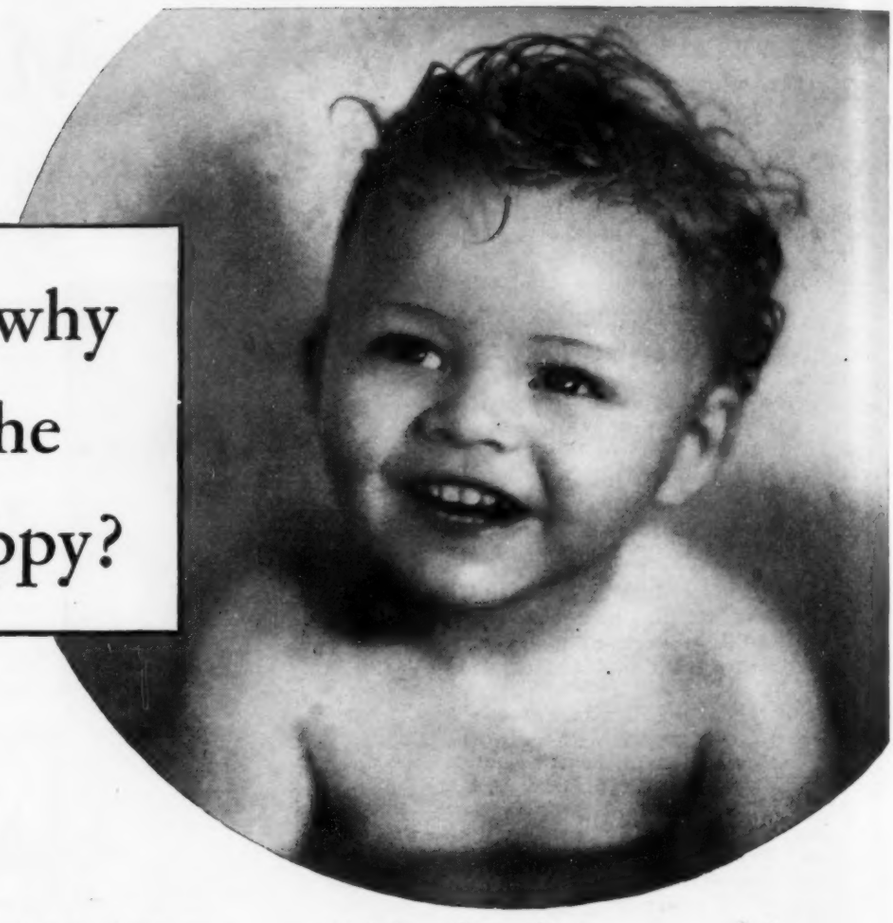
By LEO J. LATZ, M.D., LL.D.

100th Thousand
$1.00 per copy
at bookstores or from

LATZ FOUNDATION
1235 Republic Building CHICAGO, ILL.

Write your name and address on a postal card, mail it to us and we will send you our

FREE PAMPHLET



And why shouldn't he be happy?

Milk that can *not* cause infectious disease—that will *surely provide* the substances which growing bodies need, the substances of which sound bones and gleaming teeth are built—is an essential requisite for sturdy growth and bounding vigor in childhood.

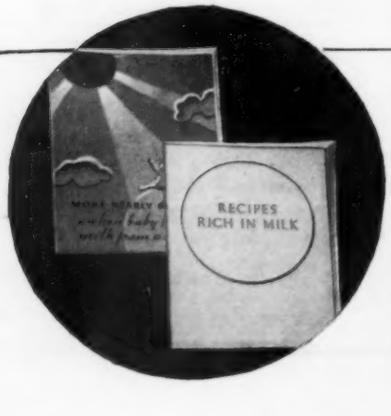
Pet Milk strikingly meets these requirements. Every drop is as surely safe as if there were not a germ of disease in the world.

Every drop is uniformly rich in all the food substances of whole milk—the most nearly perfect food. Every drop of Pet Milk is now irradiated, enriched with the sunshine vitamin D, which enables the body better to use the bone and tooth-building minerals—the calcium and phosphorus—which the milk supplies.

For babies and for children, Pet Milk is extraordinary milk—yet this excellent milk costs less generally than ordinary milk.

Send for these free books

The baby book "More Nearly Perfect—When Baby Needs Milk from a Bottle" explains why Irradiated Pet Milk is so good for babies and for growing children. It also contains twenty-five recipes for babies' first solid food and for dishes suitable for growing children. "Recipes Rich in Milk" includes 74 recipes which will help you to put in your family's food extra whole milk solids and extra sunshine vitamin D.



PET MILK COMPANY

1429g Arcade Building, St. Louis, Missouri *or*
Dept. 29g, 24 California St., San Francisco, Cal.

Please send me, free of charge, ☐ **BABY BOOK** *"More Nearly Perfect—When Baby Needs Milk from a Bottle"* ☐ *"Recipes Rich in Milk"*

*Name*_____ *Address*_____

*City*_____ *State*_____

(Fill in completely. Offer is limited to residents of Continental U. S.)